

THE NEW HAIRSTREAK BUTTERFLY GENUS *ORCYA*,
A REVISION OF THE NEOTROPICAL
"THECLA" *ORCYNIA* ASSEMBLAGE
(LEPIDOPTERA: LYCAENIDAE)

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Abstract.—The new genus *Orcya* is described to include a monophyletic group of twelve species distributed from Mexico south to central Argentina. Nine species are transferred from *Thecla*, *ahola* Hewitson, *anthracia* Hewitson, *aunia* Hewitson, *bassania* Hewitson, *catharina* Draudt, *cordelia* Hewitson, *larseni* Lathy, *marmoris* Druce and *orcynia* Hewitson, and three new species described, *O. hewitsoni* (northwest Andes), *O. obliqua* and *O. supra* (Argentina). Lectotypes are designated for *T. ahola* and *T. anthracia*. Numerical cladistic analysis (PAUP) indicates *Orcya* is the sister group of *Noreena* Johnson, MacPherson and Ingraham and *Contrafacia* Johnson (Theclinae, Eumaeini).

In conjunction with a numerical cladistic analysis of eleven groups of Neotropical Theclinae ("hairstreak butterflies," tribe Eumaeini, sensu Eliot, 1973), I recently revised the formerly monotypic genus *Noreena*, erected the sister genus *Contrafacia* and designated the sister groups of these, respectively, as the "orcynia" and "orios" species groups of "*Thecla*" (Johnson, 1989a). "*Thecla*" is a polyphyletic grade genus used historically to include some 750 Neotropical hairstreak taxa (Bridges, 1988). Numerous other species of these butterflies remain undescribed. Since the early work of Clench (1944, 1946), until recent revisionary studies, a major task for Neotropical lycaenid systematics has been retrieval of monophyletic groups from "*Thecla*" and description of their additional members.

Among the large "*Thecla*" grade, and contrasting the seldom collected members of *Noreena* and *Contrafacia* (Johnson, 1989a), the "orcynia-Group" (originally termed such by Draudt, 1919) includes several familiar and widely distributed butterflies well-represented in museums and private collections. There are also some undescribed members from less-collected areas of the Neotropics. The purpose of this paper is to revise the "*Thecla* orcynia-Group," erecting the new genus *Orcya* to include nine species formerly placed in *Thecla* and three new species.

SYSTEMATICS

Johnson (1989a: tables II, III, fig. 9) enumerated characters for eleven groups of Eumaeini and presented a cladogram of five terminal groups including *Noreena*, *Contrafacia*, the "orcynia" and "orios" assemblages and one undescribed group (Johnson, 1989a: fig. 8). For diagnostic purposes, autapomorphies were delimited only for the two terminal genera revised (*Noreena* and *Contrafacia*).

In addition to the synapomorphies uniting *Orcya* with *Noreena* and *Contrafacia* (Johnson, 1989a: fig. 8; herein Table 1 and Fig. 1A) *Orcya* is distinguished by a

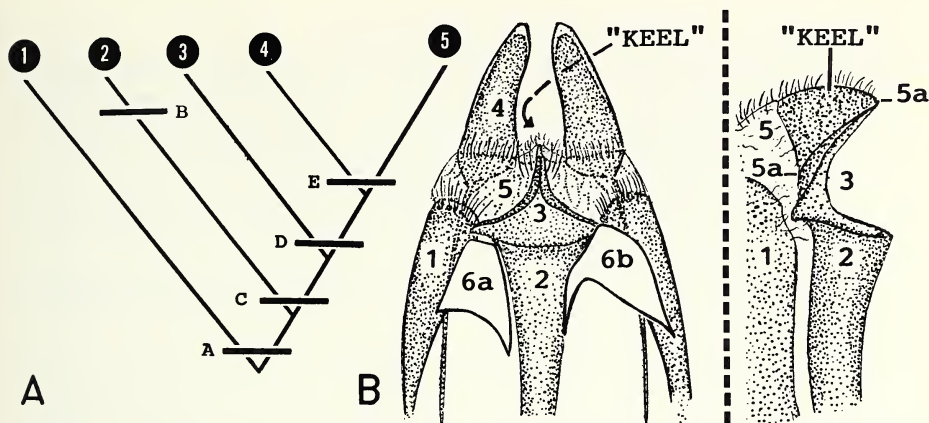


Fig. 1. A. Cladogram of *Orcya* (2) and relatives (1, "orios" Group; 3, undescribed sister group; 4, *Contrafacia*; 5, *Noreena*). Cladogram (from Johnson, 1989a) derived from parsimonious distribution of unweighted characters rooted by consensus between the Lundberg rooting method (Swofford, 1985) and outgroup rooting using as outgroups the "spurina," "thyesa" and "brescia" groups of *Thecla* (as defined in Johnson, 1989a) (Consistency Index = 0.850). For full character and outgroup descriptions see Johnson, 1989a, tables 1–3, figs. 8, 9. Crossbar "B" denotes autapomorphy of *Orcya* illustrated at right in B; crossbars "A" and "C"–"E" represent synapomorphies summarized in Table 1. B. Ventral view (left) and lateral view (right) of autapomorphic dorsal "keel" on ductus bursae terminus in *Orcya* (keel is salient in lateral view; in ventral view, curved arrow indicates keel is behind lamellae, perpendicular to plane of the illustration). Features: 1, eighth tergite; 2, ductus bursae terminus; 3, lamellae; 4, papillae anales; 5, membranes joining dorsal "keel" with line connecting "5a" notations denoting flat dorsal surface typifying noncongeners; 6a, b, usual location of additional sclerotized components unique to some *Orcya* species.

salient autapomorphy of the female genitalia. The dorsal surface of the lamella postvaginalis and adjacent ductus bursae exhibits a pronounced sclerotized keel. This keel (Fig. 1B) extends from the terminus of the lamella postvaginalis to the dorsal antrunal margin and joins the genital apparatus to the membranes connecting the base of the papillae anales and the caudal edge of the eighth tergite (Fig. 1B). Also aiding ready identification of *Orcya* taxa are two prominent wing characters: (1) an under surface medial hindwing stripe offset basally with one to three parallel cell-end streaks (sensu Nicolay, 1976; herein Figs. 2[A]–5), an apomorphy considered precursor of the more complex "split-stripe" pattern occurring in *Contrafacia* and *Noreena* (Johnson, 1989a: figs. 1, 5, 10) and (2) no upper surface androconial "brands" on the forewings of males (Figs. 2–5), a condition considered primitive to outstanding, bipartite, brands apparent in *Noreena* and *Contrafacia* (Johnson, 1989a: figs. 1, 5). Considering these characters, recognition of *Orcya* is extremely straightforward with most of its species also readily identifiable.

Draudt (1919, p. 788) included several species in his "orcynia-Group" which do not belong in *Orcya*. The disparate morphologies of these species are documented here in Figure 12 (see Remarks under *Orcya*).

Table 1. Synapomorphies of lineages in Figure 1.¹

- A. *Female genitalia*, condition of sclerotized juncture between cephalic element of ductus bursae and antrum [Fig. 4A]: [Johnson, 1989a, 13]—junction between cephalic element of ductus bursae and antrum characterized by a constricted neck of closely abutting, fully sclerotized, surfaces appearing laterally folded and ventrally transparent [Fig. 7A].
Male internal secondary sexual organs, condition of the brush organs [Fig. 2B]: [Johnson, 1989a, 14]—vincular brush organ present [Figs. 3, 6].
- C. *Male genitalia*, condition of saccus: [Johnson, 1989a, 4]—saccus radically elongate, cephalic expanse exceeding that of entire vincular arc (measured from base of saccus to basal juncture of uncus lobes) [Figs. 6, 7AB].
Male genitalia, condition of vinculum [Fig. 3A]: [Johnson, 1989a, 6]—ventro-caudal area of vincular arc with spurs abutting or overlapping the juncture of valve's bilobed area and caudal extension [Figs. 3, 6, 7AB].
Wing pattern, condition of under surface hindwing pattern: [Johnson, 1989a, 17]—both sexes with medial stripe and two to three parallel cell-end streaks (*sensu* Nicolay, 1976) [Fig. 10].
- D. *Male genitalia*, condition of valval caudal extension [Fig. 3A]: [Johnson, 1989a, 3]—caudal extension greatly thickened caudal bilobed area, tapering caudally with convex ridge defined along ventral inner margin of the lobes [Figs. 3, 6, 7B].
Male genitalia, condition of vinculum [Fig. 3A]: [Johnson, 1989a, 7]—ventrum of vinculum extremely compact, measure of entire edge not exceeding measure of entire edge of bilobed area of valvae [Figs. 3, 6, 7B].
Male external secondary sexual organs, condition of wing androconial structures [Fig. 1G]: [Johnson, 1989a, 16]—each forewing dorsum with androconial patch bipartite, occurring in two sectors (each on the respective distal and basal sides of the crossvein of the discal cell) [Fig. 1F–I].
- E. *Male tergal morphology*, condition of eighth tergite: [Johnson, 1989a, 1]—eighth tergite with “subcordate incised posterior cavity” (*sensu* Johnson, 1989a, Tb. 2(A) (1), Johnson 1989b) [Figs. 2, 6].
Male genitalia, condition of bilobed area of valvae [Fig. 3A]: [Johnson, 1989a, 2]—bilobed area robust and strongly angled ventrad the caudal extension [Fig. 3].
Male genitalia, condition of saccus: [Johnson, 1989a, 5]—saccus with emphatic terminal knob [Figs. 3, 6].
Female genitalia, condition of ductus bursae: [Johnson, 1989a, 8]—cephalic element of ductus bursae strongly arched laterally [Figs. 4, 6].
Female genitalia, point of attachment of ductus bursae to corpus bursae: [Johnson, 1989a, 9]—point of entry of ductus bursae on centro-lateral surface of corpus bursae [Figs. 4, 6].
Female genitalia, condition of juncture of ductus bursae and corpus bursae: [Johnson, 1989a, 10]—ductus bursae joins corpus bursae with variously expansive sclerotized arms [Figs. 4, 6].
Female genitalia, point of attachment of ductus seminalis to corpus bursae: [Johnson, 1989a, 11]—ductus seminalis emanates from a sclerotized shield located on the lateral to disto-lateral surface of the corpus bursae [Figs. 4, 6].
Female genitalia, condition of juncture between cephalic element of ductus bursae and antrum [Fig. 4A]: [Johnson, 1989a, 12]—junction, viewed from any angle, transparent and constricted to a marked “hour-glass”-like shape [Figs. 4, 6].
Male internal secondary sexual organs, condition of brush organs [Fig. 3A]: [Johnson, 1989a, 15]—saccal brush organ present [Fig. 3, 6].

¹ Condensed from analysis of eleven eumaine groups by Johnson (1989a, tables 1–3, figs. 8–9); bracketed figure citations refer thereto. Bracketed numbers indicate original character numbers of Johnson (1989a, table 2A) where respective plesiomorphic states are characterized and additional remarks provided. For clarity, some descriptions are slightly modified from that text. For autapomorphies of groups 4 (*Contrafacia*) and 5 (*Noreena*) see Johnson (1989a, table 2B, figs. 8–9).

MATERIALS AND METHODS

Specimens were studied from the Allyn Museum of Entomology (AME), American Museum of Natural History (AMNH), British Museum (Natural History) (BMNH), Carnegie Museum of Natural History (CMNH), Field Museum of Natural History (FMNH), Hope Entomological Collections, Oxford University (HEC), Instituto Miguel Lillo, Tucumán, Argentina (IML), Milwaukee Public Museum (MPM), Museum National d'Histoire Naturelle, Paris, France (MNNH) and the Robert C. Eisele Collection (Tucumán, Argentina). Methods and terminology follow Johnson (1989). In the Material Examined an asterisk indicates at least one specimen of the gender(s) noted was dissected.

Orcya, new genus

DIAGNOSIS. Compared to other Eumaeini, relatively large (forewing base/apex to 17 mm [many eumaeines generally 10–14 mm]) with wings distinctive in combining (1) upper surface blue iridescence void of androconia in males and (2) under surface brown to gray grounds marked by single, thin, whitish medial lines on both wings (on hindwing complemented by distinctive streaks or crescents in discal cell, postbasal or submarginal areas). Morphology typified by (1) males with eighth tergite unmodified, genitalia with elongate saccus (equalling or greatly exceeding length of valvae), valvae variously “spindle”-shaped and overlapped ventro-terminally by broad vincular spurs and (2) females with eighth tergite unmodified, genitalia with ductus bursae divided into sclerotized caudal and cephalic elements joined by a transparent, flexible, neck and terminal lamellae with a pronounced dorsal keel midway between the apophyses papillae anales.

Among eumaeines *Orcya* resembles *Noreena* and *Contrafacia* most (see Remarks and Johnson, 1989a), but these latter genera have the more complex under surface “split-stripe,” modified eighth tergites in males, and caudal elements of the female genitalia laterally arched proxad a detached sclerotized shield on the corpus bursae.

DESCRIPTION. Adults. Figures 2–5. *Male*. Upper surface of wings: ground variously iridescent blue from basal to postmedial areas, depending on the species. Forewings lacking androconial brands. Except for one tailless species [*O. larseni*, see below] hindwing with short tail at vein CuA1 terminus, longer tail vein CuA2 terminus. Under surface of wings: ground brown to grayish; forewing with thin, whitish medial to postmedial band, variously jagged or complemented by discal and submarginal maculation depending on the species. Hindwing with wide gray to whitish medial line, complemented in the discal cell by a distal slash and, depending on the species, additional basal, postbasal and submarginal lines, suffusions or crescents. Limbal area with variously pronounced “Thecla-spot” (CuA1 submargin) and various darkening of the anal lobe base. Length of forewing: 14.5–16.5 mm (one species conspicuously smaller, see *O. obliqua*). *Female*. Upper surface of wings: ground variously iridescent blue to blue-green, usually with iridescence more distally expansive than on males; lacking androconia. Except for one tailless species [*O. larseni*, see below] tailed as in male. Under surface of wings: marked similar to males. Length of forewing: 14.5–17.0 mm. *Male Tergal Morphology and Genitalia*. Figures 6, 8. Eighth tergite unmodified. Genitalia with vinculum and saccus distinctly elongate (saccus length equal to or greatly exceeding length of vincular arc) and with prominent

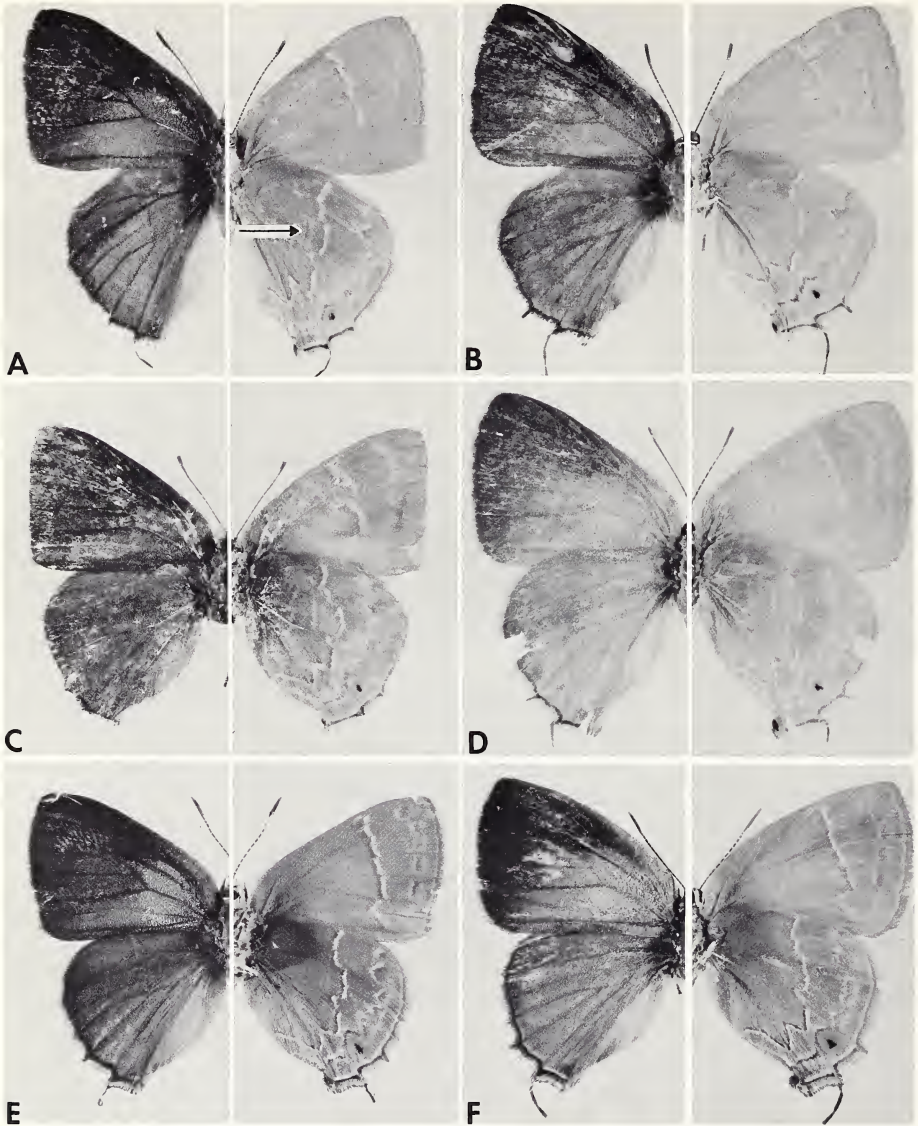


Fig. 2. Adults of *Orcya* (upper surface, left; under surface, right; line in A marks location of parallel cell-end streaks characterizing wing pattern of the genus). A. *O. orcynia* male (Rio Cocorna, Colombia, 800–1,100 m, 21–28 August 1946, AMNH); B. *O. orcynia* female (Villa Neily, Costa Rica, 1,000 m, 22 February 1971, AME); C. *O. cordelia* male (Cachavi, Ecuador, 1 November 1896, BMNH); D. *O. cordelia* female (Interior of Colombia, 20 December 1902, BMNH); E. *O. hewitsoni* holotype male; F. *O. hewitsoni* female (Rio Verde, Ecuador, 1,800 m, BMNH).



Fig. 3. Adults of *Orcya* (upper surface, left; under surface, right). A. *O. catharina* male ("Guapy," Rio de Janeiro, Brazil, 20 July 1927, MPM); B. *O. catharina* female (Petropolis, Brazil, 20 February 1958, MPM); C. *O. anthracia* male (Umuarama, Brazil, 1,800 m, 3–15 February 1937, MPM); D. *O. anthracia* female (data as in C); E. *O. supra*, holotype female; F. *O. supra*, allotype male.



Fig. 4. Adults of *Orcya* (upper surface, left; under surface, right). A. *O. ahola* male (Orizaba, Mexico, March 1908, AMNH); B. *O. ahola* female (datas as in A); C. *O. aunia* male (Cucuta, Venezuela, BMNH); D. *O. aunia* female (Merida, Venezuela, BMNH); E. *O. obliqua*, holotype male; F. *O. cordelia* from Central America (Hda. Montecristo, El Salvador, 2,300 m, 18 July 1981, AME).

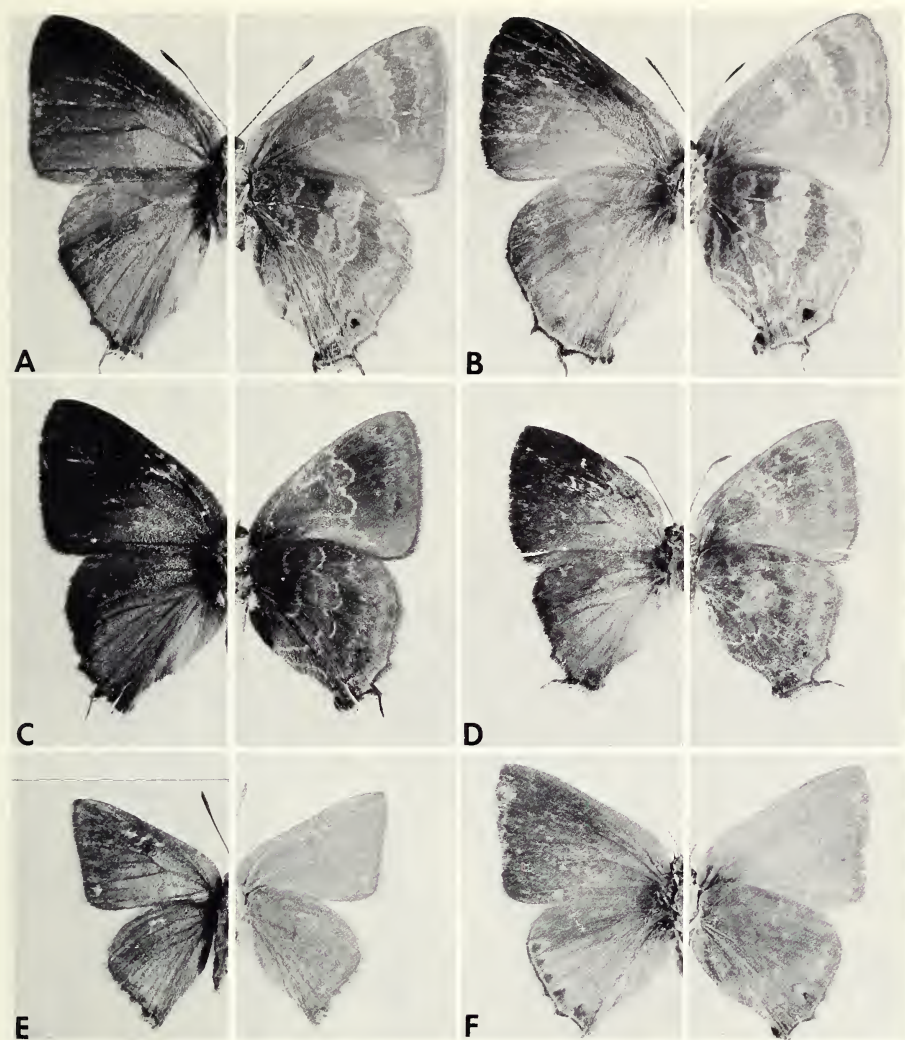


Fig. 5. Adults of *Orcya* (upper surface, left; under surface, right). A. *O. bassania* male (Jalapa, Mexico, 1896, BMNH); B. *O. bassania* female (Orizaba, Mexico, AMNH); C. *O. marmoris* male (Balzapamba, Ecuador, October 1893–February 1894, BMNH); D. *O. marmoris* female (Merida, Venezuela, 1887, BMNH, see Remarks under *O. marmoris*); E. *O. larseni*, holotype male; F. *O. larseni* female (Cafayate, Argentina, IML).

caudo-ventral spurs covering valval terminus. Valvae with bilobed regions (Fig. 6A) variously parabolic or shouldered and caudal extensions (Fig. 6A) constricted and often relatively short. Aedeagus elongate, usually exceeding length of rest of entire genitalia by one-fourth to one-third; terminus with two cornuti (upper, straight spine with serrate terminus; lower, curvate with serrate lateral edge). Brush organs prom-

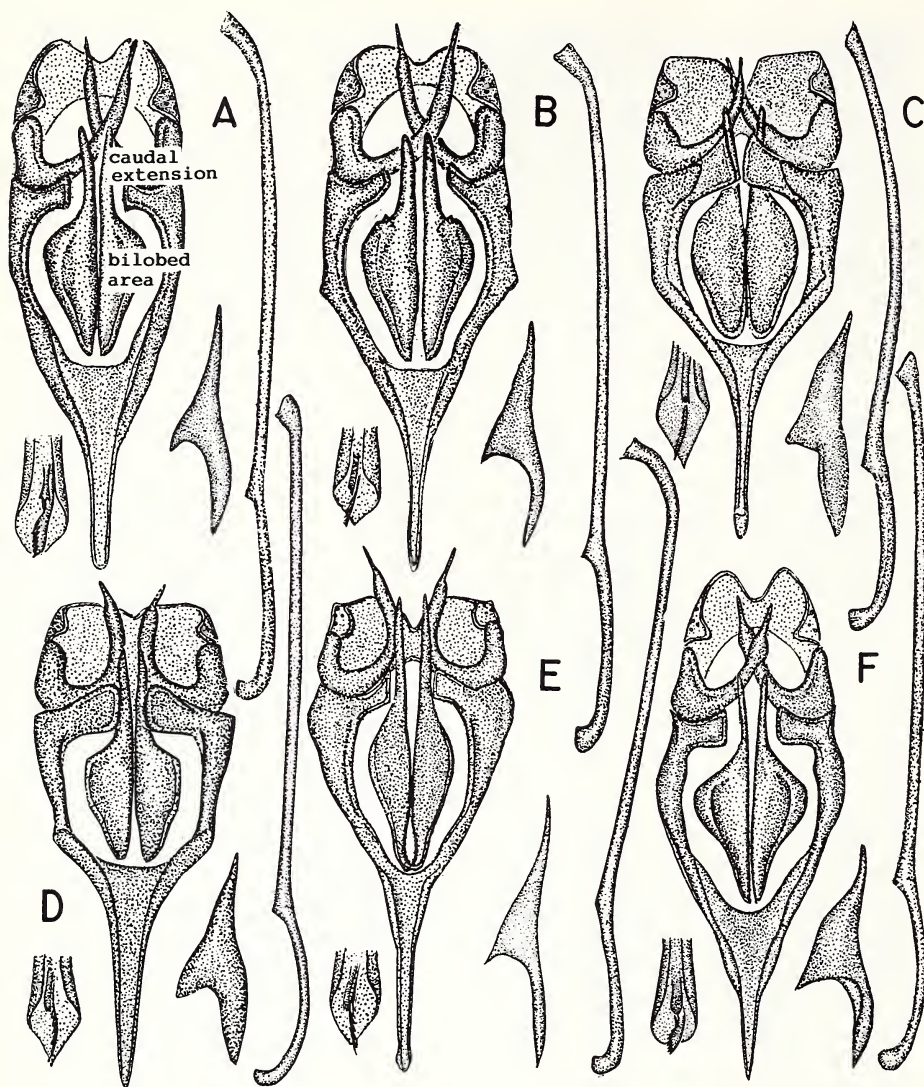


Fig. 6. Male genitalia of *Orcya* (for each entry: ventral view of genitalia with aedeagus removed and placed immediately left or right; lower right, lateral view, valve; lower left, ventral view, aedeagus terminus and cornuti). A. *O. orcynia* of Figure 2 (type see Johnson, 1989a, fig. 7); B. *O. cordelia* of Figure 2; C. *O. hewitsoni*, holotype; D. *O. catharina* of Figure 3; E. *O. obliqua*, holotype; F. *O. anthracia*, paralectotype #5.

inent, variously abutting areas of dorso-cephalic vincular surface, depending on the species. *Female Tergal Morphology and Genitalia*. Figures 7, 9. Eighth tergite unmodified. Genitalia with ductus bursae typified by fluted, heavily sclerotized, caudal and cephalic elements joined centrally by a constricted, flexible, transparent neck.

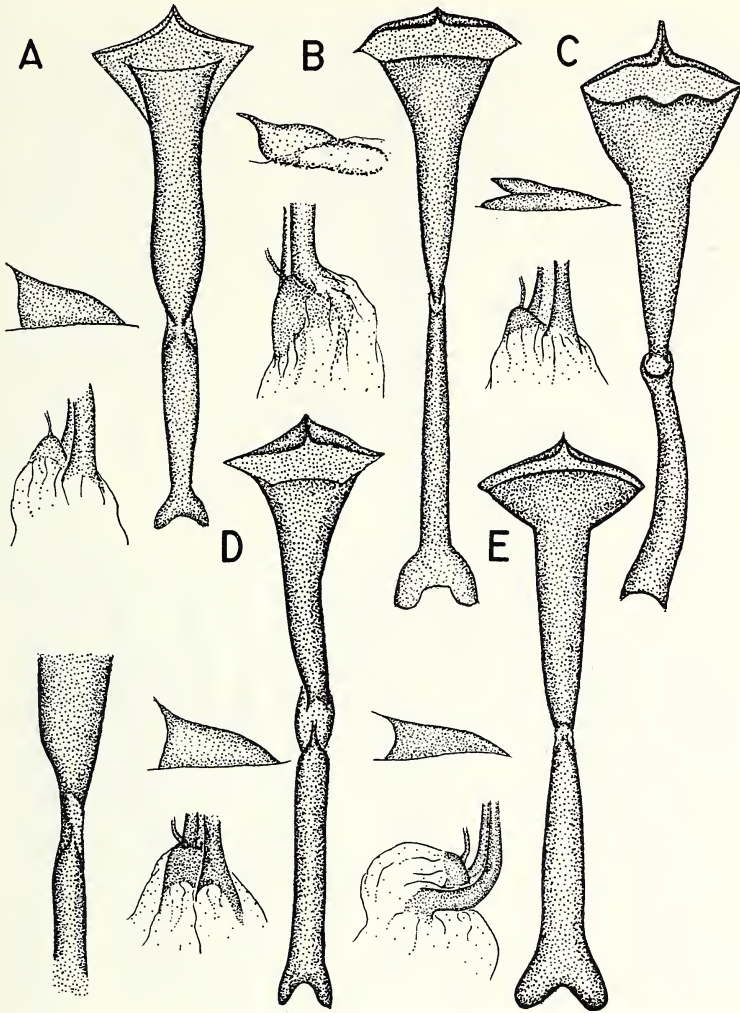


Fig. 7. Female genitalia of *Orcya* (for each entry: right, ventral view, ductus bursae; left above, lateral view, signum; left below, lateral view, juncture of ductus and corpus bursae). A. *O. orcyia* of Figure 2; B. *O. cordelia*, holotype; C. *O. anthracia*, lectotype; D. *O. hewitsoni* of Figure 2 (lateral view of ductus bursae added at left); E. *O. catharina* of Figure 3.

Terminal opening of caudal element thin and surrounded by constricted lamellar lips generally forming a rhomboid shape. Dorsum of lamella postvaginalis centrally produced to a vertically directed keel joining the terminus of the genital apparatus to the membranes connecting the base of the papillae anales and the caudal edge of the eighth tergite (Fig. 1B). Species keel size directly proportional to size of ventral lamellar lips (Figs. 7, 9). Depending on the species, cephalic ductal element with terminus straight or inclined and attached to the corpus bursae by various small

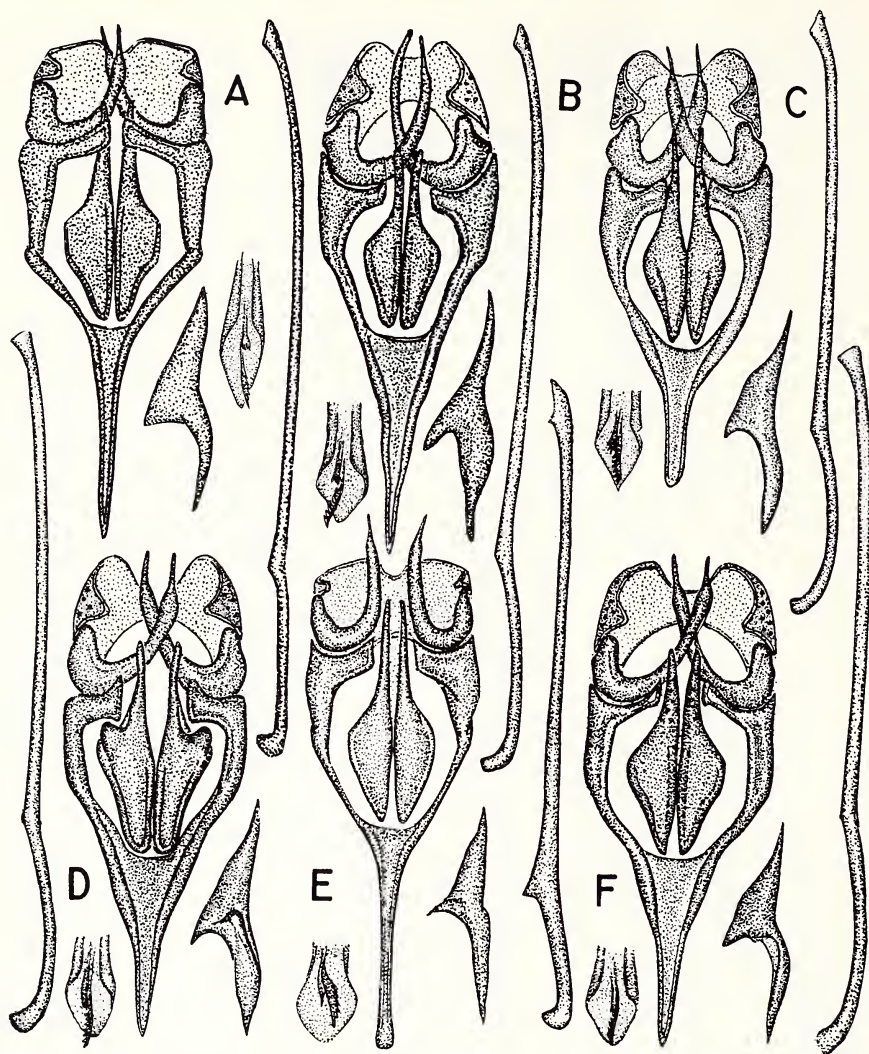


Fig. 8. Male genitalia of *Orcya* (format as in Fig. 6). A. *O. supra*, allotype; B. *O. ahola*, lectotype; C. *O. aunia*, holotype; D. *O. bassania*, holotype; E. *O. larseni*, holotype. F. *O. marmoris*, holotype.

sclerotizations of the cervix bursae (cervix bursae, *orcynia* Group with small sclerotized dorsal hood [Fig. 7]; *ahola* and *bassania* groups, generally with two, short, linular sclerotized struts [Figs. 8, 9]). Ductus seminalis emanating from cervix bursae. Corpus bursae with two spine-like signa. Papillae anales lobate; length of apophyses papillae anales varying with species, extremes of length being characteristic of some taxa.

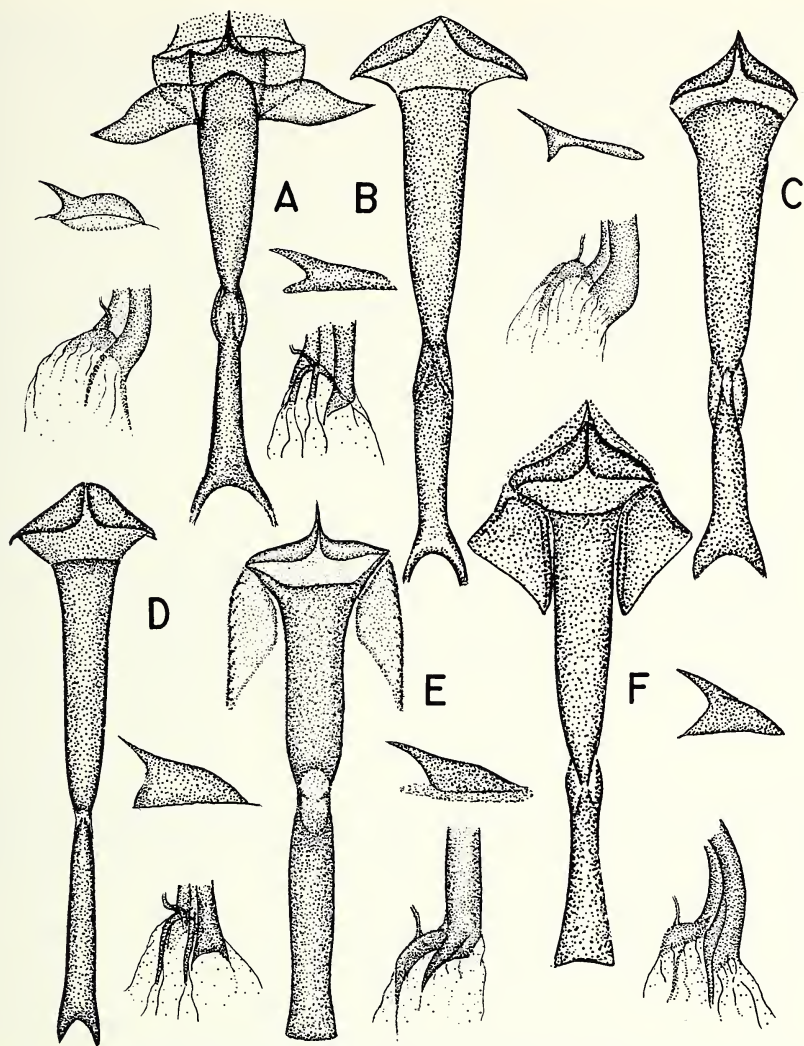


Fig. 9. Female genitalia of *Orcya* (format as in Fig. 7, except as noted). A. *O. supra*, holotype; B. *O. ahola* of Figure 4; C. *O. aunia* of Figure 4 (signum and bursae junctures placed below); D. *O. bassania* of Figure 5 (signa and bursae junctures placed right); E. *O. larseni* of Figure 5. F. *O. marmoris* of Figure 5.

TYPE SPECIES. *Thecla orcynia* Hewitson (1868).

DISTRIBUTION. Figures 10, 11. Four generally sympatric species from central Mexico S to NW Colombia with an additional congener in E Colombia/Venezuela and two others extending from the Andes of Ecuador S to Peru. Two sympatric species in SE Brazil; three allopatric species in disjunct areas of montane Argentina.

BIOLOGY. *Immature Stages.* Unknown. *Foodplants.* Unknown. *Ecology.* Habitats of *Orcya* species are known from data accompanying, and collectors' personal comments about, various samples. There are also published accounts (Brown, 1941; Pallister, 1956; Ross, 1975–1977). Further study of these, and the biology of *Orcya* is important to understanding its species diversity. Some species appear to be “common” (Draudt, 1919) lowland xerophiles occurring in areas both of native and agricultural vegetation. Other species appear cosmopolitan in upland, lowland, disturbed and undisturbed areas across wide regions. A few, seldom-collected, species appear to be montane cloud forest endemics (see individual species entries below).

REMARKS. *Intergeneric Relations.* Apparent cladistic relations of *Orcya* have been elucidated by Johnson (1989a) and summarized above. Draudt (1919) included four species in his “orcynia-Group” which do not belong in *Orcya*: *Thecla fidelia* Hewitson, *T. thoria* Hewitson, *T. keila* Hewitson and *T. gabatha* Hewitson. Morphology of the types of these species (BMNH) is illustrated in Figure 12. *T. gabatha* exhibits the characters of *Strymon* Hübner (Johnson, Eisele and MacPherson, in press); the other species cannot be assigned to any currently described eumaeine genus.

Intragenetic Relations. I divide *Orcya* into three species groups based on homogeneity of wing pattern and morphology. Two of the groups each have respective Central American and SE South American subgroups; the third is limited to Central America and N South America.

ETYMOLOGY. The name is a euphonious Latinized combination taken from the name of the type species. It is considered feminine.

The orcynia Group

Taxa share a simple undersurface pattern comprised of a lineal, medial, forewing and hindwing band, the latter complemented by various cell-end streaks and occasionally by postbasal or submarginal markings. Species level differences in genitalia are apparent but as a group the only shared character is a small dorsal sclerotized shield at the cervix bursae in females.

Central American/northern South American subgroup

Orcya orcynia (Hewitson), **New Combination**

Figs. 2A, B, 6A, 7A

Thecla orcynia Hewitson 1868:11, 1869:(1) 121, (2) pl. 50, figs. 262–265; Kirby, 1871:392; Godman & Salvin, 1879–1901 (2):64, 719; Druce, 1907:603; Hoffman, 1940:714; Comstock & Huntington, 1958–1964 [1962]:42; Robbins & Small, 1981: 315; Zikán & Zikán, 1968:56; Llorente et al., 1986:25; Johnson, 1989a:13.

Thecla anthracia [not *anthracia* Hewitson 1863–1878 [1874]]: Draudt, 1919:788; Comstock & Huntington, 1958–1964 [1962]:42; Bridges, 1988:I.25 (synonymy in error).

Thecla aunia [not *aunia* Hewitson 1863–1878 [1874]]: Draudt, 1919:788; Druce, 1907:603 [misspelled as “anina”]; Godman & Salvin, 1879–1901 (2):64; Comstock & Huntington, 1958–1964 [1962]:42; Bridges, 1988:I.40 (synonymy in error).



Fig. 10. Geographic distributions of orcyनिया species group of *Orcyia*.

DIAGNOSIS. Upper surface of both sexes with dull violet to purplish iridescence from basal to postmedial areas (male brighter than female). Under surface simply marked—medial wing bands thin, slightly jagged, not greatly contrasting ground color, and with a single cell-end streak in the discal cell [this contrasts lavish markings in sympatric congeners *O. cordelia*, *ahola* and *bassania*, see below]. Male genitalia with base of valvae parabolic [not with upturned “shoulder” as in congeners of *bassania* Group, see below] and caudal extensions short; female genitalia with areas abutting central constriction generally produced and with structural innovation at the cervix bursae generally characterized by a small distal hood abutting the cephalic ductal terminus.

DESCRIPTION. *Male.* Upper surface of wings: ground iridescent violet to violet-blue, bordered subapically and in the submargins by fuscous. Under surface of wings: ground dingy gray to brown, forewing with whitish, basally darkened, postmedial line from costa to cell CuA1, often angled basally thereafter. Hindwing with single, gray to gray-white, medial line meandering across wing from costa to cell CuA1, thereafter incised in a compact “W”-shape before anal angle and complemented basally in discal cell by a dull cell-end streak. Limbal area with dull orange Thecla-



Fig. 11. Geographic distributions of *ahola* and *bassania* species group of *Orcya*.

spot (cell CuA1 submargin). Length of forewing: 14.0–15.5 mm. *Female*. Upper surface of wings: ground gray-brown, slightly hued violet to violet-blue; otherwise marked as male. Under surface of wings: similar to male. Length of forewing: 14.5–16.0 mm. *Male Genitalia*. Figure 6A. Typical of genus but valvae bilobed area widely shouldered and with thin caudal extension (length of bilobes and caudal extension about equal). Saccus elongate, exceeding length of vincular arc by about one-fifth. Brush organs generally abutting the dorso-cephalic angle of vinculum. Aedeagus elongate, length exceeding rest of genital by about one-fourth, caecum comprising about two-fifths aedeagal length. *Female Genitalia*. Figure 7A. Length of caudal element in ductus bursae only slightly exceeding that of cephalic element and with sclerotized areas proxad central transparent juncture notably produced. Juncture of cephalic ductus bursal element with corpus bursae straight, without notable modification of the cervix bursae. Ductus with terminal lamellae pronounced, maximal width of lamellal lips usually exceeding twice that of maximal ductus width. Apophyses papillae anales with length about equalling that of caudal element of ductus bursae.

TYPES. Holotype male, BMNH, labelled “Polochic Valley, F.D.G. and O.S.,” “Type, B.M. Type #838,” “*orcynia*,” “Polochic valley,” “Godman-Salvin Coll. 1911.-93. B.C.A. Lep. Rhop. *Thecla orcynia*, Hew.” Johnson (1989, fig. 7) mentioned the above male and a BMNH female as syntypes. Further study in this revision indicates the latter female is not a type. Confusion concerning BMNH types can result from a series of longhand labels which, like the part typeset/part longhand BMNH labels numbering actual Hewitson syntypes include one of a set of consecutive numbers after the species and authors’ name along with a notation including the word “type.” On the invalid labels, the longhand notation (poorly written) properly deciphers as “comp. type” (not “co-type”) and apparently means “compared to the type.” These labels are not the actual BMNH Hewitson type labels which are described below under *T. cordelia* Type.

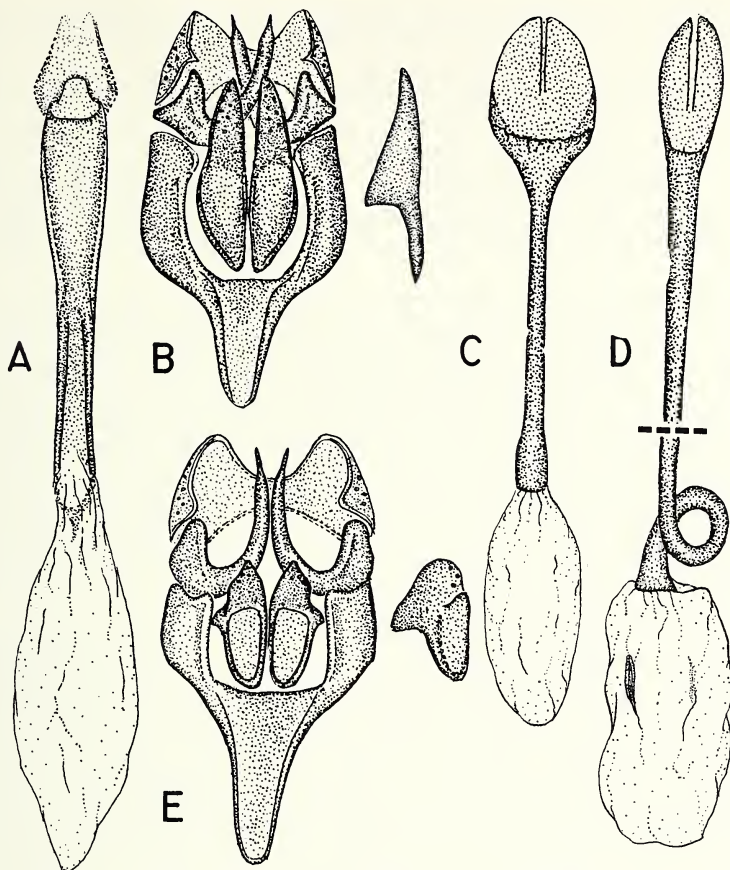


Fig. 12. Genitalia (ventral view) of non-congeners previously associated with the "*Thecla orcynia*-Group" by Draudt (1919). A. *Thecla fidelia* Hewitson, type female; B, C. *T. keila* Hewitson, type male, type female; D. *T. gabatha* Hewitson, type female [properly *Strymon gabatha* (Hewitson)]; E. *T. thoria* Hewitson, type male.

DISTRIBUTION. *Spatial* (Fig. 10): Central Mexico southward to Colombia and Venezuela. *Temporal*: Specimen dates generally span the months November to March and July to September.

REMARKS. *Intragenetic Relations.* Based solely on wing pattern similarity, Draudt (1919) synonymized *T. orcynia*, *T. anthracia* and *T. aunia*. As documented in individual entries below, morphological study of type specimens and large additional samples indicates this was incorrect. Regionally sympatric *O. cordelia* Hewitson, segregated in upland cloud forest biomes and *O. catharina* Draudt, a SE Brazilian lowland xerophile, are the apparent sister species.

Variation. Compared to samples from other months, specimens from July and August often have more upper surface blue and more pronounced under surface markings (see Colombia, Costa Rica and El Salvador entries in Material Examined).

Some August specimens exhibit a lightly marked costal area on the hindwing and a more pronounced "W"-shaped marking along the anal region. Such minor differences apparently represent seasonal variation since major additional wing pattern elements (like those characterizing *O. cordelia* and taxa of the *ahola* and *bassania* groups) do not occur in *O. orcynia* and genitalia are homogeneous throughout its range. Consequently, if superficial differentiation of *O. orcynia* from *O. cordelia* or *O. ahola* is uncertain, presence in these latter species of postbasal streaks (both species) and submarginal crescents (*O. cordelia*) is diagnostic. Godman and Salvin (1879–1901) also noted the minor variation in *O. orcynia* contrasting the disparate wing markings of relatives.

Biology. Draudt's (1919) comment that *O. orcynia* was a "very common" butterfly is reflected by large museum samples. From material examined in this study, it appears *O. orcynia* inhabits diverse lowland and submontane environs. Its prominence in xeric and disturbed biomes contrasts it to *O. cordelia*, a lavishly marked, regionally sympatric congener which appears restricted to montane cloud forests. This habitat difference, readily inferred from recent specimens with detailed collection data, early published accounts and personal communications with field workers (see Acknowledgments; Brown, 1941; Pallister, 1956) appears to explain taxonomic confusion among early workers. With only regional data, striking differences in wing pattern and genitalia led early authors to varied and contradictory views of synonymy (see Remarks under *O. cordelia*).

MATERIAL EXAMINED: COLOMBIA. *Colimba (one male) (AME); Rio Prio, Payande, Mina Vieja area, 950 m, 21 December 1974, leg. S. & L. Steinhäuser (one female) (AME); Cauca, Pescador, 1,450 m, 9 February 1974, leg. S & L. Steinhäuser (one male) (AME); *Rio Cocorna, Antioquia, 800–1,100 m, 21–28 August 1946 (four males) (AMNH); Bogota (one male) (BMNH); Interior of Colombia (one male) (BMNH); *Cauca District, Pereira (five males, four females) (BMNH); "Colombia", leg. Apollinaire (two females) (BMNH); Bogota (one female) (BMNH); "Colombia" (two females) (BMNH); Onaca, Santa Marta, 2,200 ft, wet season, November–December 1901 (one male, one female) (BMNH). COSTA RICA. *San Mateo (one male) (BMNH); Turrialba, 2,000 ft, 13 July 1971 (one male) (AME); Villa Naily, 3,000 ft, 27 February 1971 (one female) (AME); *Cartago (one male) (AMNH). EL SALVADOR. *San Salvador, 30 August 1971 (one male) (AME). GUATEMALA. *Polochic Valley (one male, four females) (BMNH). HONDURAS. *La Cumbre, 19 January 1922, 20 January 1922, 20 January 1922, 1 February 1922, 6 February 1922 (five males) (BMNH); San Pedro Sula (one female) (BMNH). MEXICO. *Rio Sarabia, Oaxaca State, November 1958, leg. T. Escalante (one female) (AME); Catemaco, Vera Cruz State, leg. T. Escalante, August 1957 (one male), November 1967 (one female), February (one female) (all AME); *Atoyac, Vera Cruz (three males) (BMNH); *Presidio, Vera Cruz State, leg. Hoffman (one male) (AMNH); *Cordoba, Vera Cruz State, leg. Hoffman (one female) (AMNH). NICARAGUA. *Chontales (one male, one female) (BMNH). PANAMA. Colon, 22 February 1969 (one male) (AME); Madden Dam, 24 July 1965 (one female), 2 January 1969 (one male), 26 February 1965 (one male) all leg. H. L. King (AME); Colon, Pina, 100 m, 10 September 1972, leg. H. L. King (one male) (AME); Lion Hill, leg. McLehnan (one male) (CMNH); *Lion Hill (one male) (BMNH); Arce (one male) (BMNH); Calobre (three males, two females) (BMNH); *Chiriqui (three males, one female) (BMNH); Bugaba (one male)

(BMNH). VENEZUELA. Suapure, 9 January 1900 (one male) (CMNH), Las Quiguas, Esteban Valley, 10 March to November (one male) (CMNH).

Orcya cordelia (Hewitson), **New Combination, revised status**

Figs. 2C, D, 4F, 6B, 7B

Thecla cordelia Hewitson 1869–1877 [1870] (4):64; Kirby 1871:388, 1877:774; Druce, 1907:603; Comstock & Huntington, 1958–1964 [1959]:194; Johnson, 1989a:13. *Thecla ahola* [not *ahola* Hewitson 1863–1868 [1867]]: Draudt, 1919:788; Comstock & Huntington, 1958–1964 [1959]:65, 194; Bridges, 1988:I. 89 (synonymy in error).

DIAGNOSIS. Male upper surface brilliant azure blue with vivid black apices, subapices and margins; female brilliant aquamarine over entire wing surface to the submargins. Under surface of both sexes lavishing marked—both wings with pronounced undulate medial white band, complemented in the submargins and postbasal areas by white suffusion (forewings) and white crescents (hindwings). These differ from the simple markings of *O. orcynia* and more resemble the South American species of *O. anthracia* (see below) on the upper surface and *O. ahola* and *O. bassania* on the under surface. In the genitalia, *O. cordelia* males exhibit a small, but distinctive, upturned lateral edge between the bilobed area and the caudal extension. Female genitalia are notably slender with juncture of ductus and cervix bursae pronounced and lamellae relatively small. The cephalic element of the ductus bursae is elongate, exceeding length of the caudal element by at least one-fourth.

DESCRIPTION. *Male.* Upper surface of wings: ground brilliant iridescent blue, bordered in subapical and marginal areas by vivid black. Under surface of wings: ground whitish to light gray; forewing with bold white postmedial line bordered basally with brown or black from costa to cell CuA2. Hindwing with bold, jagged, medial white band bordered basally with brown or black from costa to cell CuA1, thereafter incised to pronounced “W”-shape before anal angle and complemented basally in discal cell by one or two white cell-end streaks. Both wings with pronounced white postmedian blotches or chevrons; hindwing with white postbasal line from inner margin through the discal cell. Limbal area with light ground and suffused whitish markings, Thecla-spot (submargin, cell CuA1) pronounced. Length of forewing: 15.0–16.5 mm. *Female.* Upper surface of wings: ground brilliant aquamarine over entire surface except for fuscous apices and margins. Under surface of wings: similar to males, but often with markings more emphatic. Length of forewing: 15.0–17.0 mm. *Male Genitalia.* Figure 6B. Typical of genus but baso-lateral areas of vinculum and valvae more robust and latter with slight, but usually distinctive, caudally directed lateral prong at juncture of bilobed area and caudal extension. Length of bilobes exceeding that of caudal extension by about one-fourth. Saccus and vincular arc of about equal length. Brush organs thickly abutting the dorso-cephalic angle of vinculum. Aedeagus elongate, length exceeding rest of genitalia by about one-third, caecum small, comprising barely one-fourth aedeagal length. *Female Genitalia.* Figure 7B. Ductal elements elongate, with cephalic element length exceeding by at least one-fourth that of the caudal element. Terminal lamellae compressed, small relative to width of the ductus terminus. Juncture of ductus bursae and cervix bursae distinctly pronounced, nearly equalling the lateral expanse of the lamellae; corpus bursae covered with hoodlike distal sclerotizations. Signa broad

spines anchored on partially sclerotized bases. Apophyses papillae anales extremely long and robust, length equalling that of the ductus bursae length.

TYPE. ["Holo"]type (see below) female, BMNH, labelled: "B.M. Type No. 843," "Ecuador, Hewitson Coll. 79-69., *Thecla cordelia* 1" (see Remarks). Historically (Comstock & Huntington, 1958-1964 [1959]; Bridges, 1988), this specimen has been construed as a holotype and the type locality as Curaray, Ecuador. The latter notation is not from the original description but from an unpaginated locality list addended in Hewitson's treatment of butterflies he described from the Buckley Collection (1870). The extant syntype has no locality data. At BMNH, Hewitson Collection type labels are numbered consecutively. However, since there is no notation of the terminal number, it cannot always be ascertained if singularly numbered types are uniques, a problem complicated by syntype specimens sometimes being in three separate areas of the museum. There is no indication in the original description concerning the number of types. Thus, it is possible additional syntype(s) may be at the BMNH. There appears to be no ambiguity concerning the name; the above-noted BMNH type no. 843 is similar to larger series of the species distributed as noted below.

DISTRIBUTION. *Spatial* (Fig. 10): Occurring in disjunct montane cloud forest biomes from El Salvador southward to Colombia and NW Ecuador. *Temporal*: Specimen dates generally span the months October through March, but Central American specimens are also known from July.

REMARKS. *Intragenetic Relations*. Confusingly, Draudt considered *T. cordelia* a synonym of *T. ahola* (see *O. ahola*, below) probably because both have notable (though very different) postbasal markings. More compelling external similarities occur between the *T. cordelia* type, certain Central American specimens of the "orcynia-Group" and *Thecla anthracia* syntypes from Brazil, a fact apparently overlooked by early workers. These specimens have white to gray (at most, beige) under surface grounds [*O. ahola* is always distinctly brown] and distinctive postbasal and submarginal markings. Genitalic examination shows that the distinctive configuration of the *T. cordelia* type occurs congruently with the lavishly marked specimens resembling the type, as does a distinctive male configuration lacking the upturned shoulder of the male valvae occurring in *O. ahola*, *O. bassania* and *O. marmoris*.

The occurrence of specimens resembling the *T. cordelia* type at disparate localities from El Salvador S through Central America to NW Ecuador is at first confusing until specimens are assembled with detailed collection data. Such data suggest *O. cordelia* is a montane cloud forest endemic with a number of widely allopatric populations (see Variation, below), an inference also readily drawn from personal communication with field workers (Acknowledgments) and correlation of specimens with published ecological notes (Brown, 1941, 1942). Reinforcing this view is a similar habitat disparity documentable for regionally sympatric *T. anthracia* and *T. catharina* in SE Brazil (see below). Based on the wing and morphological data presented in this paper such apparent species distinctions warrant biological study in the field. The distinction of *O. cordelia* is further emphasized by its geographic segregation from *O. hewitsoni* described below.

Variation. South American *O. cordelia* are quite uniform in wing pattern. Probably due to range disjunction, the smaller numbers of specimens representing Central American localities are more variable. Although they exhibit the marked postbasal

markings typifying the species, submarginal markings are more reduced and the ground color is characteristically darker (Fig. 4F). Dark ground, however, does not diminish the lavishness of the under surface markings, making the under surface appearance distinctive from the drab browns of regionally sympatric *O. ahola* and the thin, lunular, meandering, postbasal and submarginal markings of *O. bassania* (Fig. 5A, B). Identification of Central American *O. cordelia* is confirmed by the characteristic female and male genitalia.

MATERIAL EXAMINED. COLOMBIA. *Bogota to Cachi, 1,700–2,800 m, January 1897 dry season (one male) (BMNH); *Rio Quirata, 2,300 m, 27 December 1945 (one male) (AMNH); Interior of Colombia (one female) (BMNH); *Popayan, 6,800 ft, 15 ii 1935 (one male) (AMNH); *Tolima, 950 m (one female) (AME); Mina Vieja, 24 March 1974 (one female) (AME); *Tolima, Las Guayabas, Rio Cucuana, 500 m, 20 March 1974, leg. S. & L. Steinhäuser (one female); *Cali, Western Cordillera, 5,500 ft, 19 February 1935 (one male) (AMNH). COSTA RICA. *Irazu, 6–7,000 ft, leg. H. Rogers (one female) (BMNH); *Cachi (one male) (BMNH); Irazu, 7,000 ft (one female) (BMNH); *Mont Pons, May (*one male) (BMNH); *Volcan Irazu, leg. Fassl (one male) (MNHN). ECUADOR. *Cachavi, 1 November 1896, leg. Rosenberg (one male) (BMNH); *Paramba, Imbabura, 1902, leg. Fleming (one male) (BMNH) [these two historical localities noted by Brown, 1941 as “humid tropical zone, hills”]; *Cotundo, 640 m, October 1975 (one male) (AME). EL SALVADOR. *Cloud Forest, Hda. Montecristo, Miranmundo, Metapan, 2,300 m, 18 July 1981, leg. S. and L. Steinhäuser (one male, two females) (AME). PANAMA. *Volcan Chiriqui (one male) (BMNH).

***Orcya hewitsoni*, new species**

Figs. 2E, F, 6C, 7D

Thecla anthracia [not *anthracia* Hewitson, 1863–1878 [1874] (“Brazil”)]: Hewitson, 1863–1878 [1874] (misidentification, in part, of syntype series, see Remarks).

Thecla orcynia [not *orcynia* Hewitson, 1868]: Draudt, 1919:788; Druce, 1907:603; Comstock & Huntington, 1958–1964 [1959]:73; Bridges, 1988:1.25 (synonymized *T. anthracia* with *T. orcynia* in error).

DIAGNOSIS. Like *O. anthracia* of SE Brazil (under surface medial bands brightly contrasting light ground color and hindwing anal elements in pronounced “W”-shape) but with medial band baso-costally directed (as in *O. obliqua* of Argentina) and generally without parallel cell-end streaks. Upper surface structural color brilliant from base to submargin in both sexes. Hindwing with bipartite black and white marginal band extending from orange anal lobe. Lacking under surface postbasal and submarginal crescents and suffusion typifying regionally adjacent *O. cordelia*. Male genitalia with distinctive widely lobate valves and vincular spurs. Female genitalia with ductus bursae dorsally produced and slightly curvate in the caudal section; apophyses papillae anales extremely long, much exceeding length of the terminal ductal section.

DESCRIPTION. *Male.* Upper surface of wings: ground brilliant iridescent azure blue, bordered by black apices and margins. Anal lobe orange, bordered variously distad by a thin white marginal line. Under surface of wings: ground light gray to light gray-brown; forewing white postmedial line, costa to cell CuA₂; hindwing with

baso-costally directed white medial line, bending to pronounced "W"-shape toward anal margin and seldom, if ever, complemented in the discal cell by cell-end streaks. Limbal area mostly unmarked; Thecla-spot dull orange. Length of forewing: 15.5 mm (holotype), other specimens 14.0–15.5 mm. *Female*. Upper surface of wings: ground brilliant aquamarine to greenish except for thin, unevenly bordered, fuscous apices and margins. Hindwing with white marginal line pronounced over blackish ground. Under surface of wings: similar to males. Length of forewing: 14.5–15.5 mm. *Male Genitalia*. Figure 6C. Vinculum rather "pear"-shaped as in *O. obliqua*, valvae with bilobed areas more widely parabolic than any congener and with thin caudal extensions. Vincular spurs extremely large. Brush organs thickly clustered at dorso-cephalic edge of vinculum. Aedeagus curvate and relatively short for the genus, length exceeding rest of genitalia by only about one-fifth, caecum comprising about one-fourth aedeagal length. *Female Genitalia*. Figure 7D. Bursal elements of about equal length, caudal element of ductus bursae dorsally produced and cephalically recurvate. Neck joining bursal sections thickened as in no other species. Cephalic bursal element not inclined and joining corpus bursae without structural innovation at the cervix bursae. Apophyses papillae anales extremely elongate, exceeding by one-fourth length of either bursal section. Signa very robust spines.

TYPE. Holotype male (Fig. 2E), BMNH, fixed from Hewitson *Thecla anthracia* syntype series as follows (see Remarks below and Types and Remarks under *O. anthracia*): "Ecuador, Hewitson Coll. 79-69., *Thecla anthracia* 6" "Ecuador." Consistent with BMNH Hewitson collection type labels, the notation "*Thecla anthracia* 6" refers to the original number assigned the syntype by BMNH staff; remaining *T. anthracia* syntypes ("1"–"5") are all from SE Brazil and are treated in the *O. anthracia* entry below.

DISTRIBUTION. *Spatial* (Fig. 10): Humid montane forest and adjoining margins from N Ecuador S to central Peru. *Temporal*: Wide distribution of dates on the few dated specimens suggests the species may occur in every month of the year.

REMARKS. *Intragenetic Relations*. This new species was evident from recent Andean samples and also represented by a single specimen in Hewitson's syntype series of *Thecla anthracia* (type series Ecuador and SE Brazil). On advice of P. Ackery (BMNH) I have fixed the Ecuadorian syntype as holotype of *O. hewitsoni* and a Brazilian syntype as lectotype of *T. anthracia*. The wing markings and morphology of *O. hewitsoni* differ distinctly from *O. cordelia*. The NW Ecuadorian break in their respective distributions, at the southern extreme of the Colombian Central Cordillera, appears compatible with most interpretations of historical endemism (e.g., Brown, 1982) and makes the *O. cordelia*/*O. hewitsoni* distributions congruent with those of *O. bassania* and *O. marmoris* of the *bassania* Group (see below and Figs. 10, 11). Consistent with its southerly distribution, *O. hewitsoni* appears closely akin to *O. obliqua* of montane Argentina (see below).

Variation. As with South American *O. cordelia*, *O. hewitsoni* is remarkably stable in wing pattern. Confusion concerning these species in the past appears to have resulted from spotty samples.

Biology. Except for relatively rare *O. ahola* and *O. marmoris*, *O. hewitsoni* is the sole congener represented in collections from Ecuador southward through Peru. This is significant since the comparatively large number of records indicate *O. hewitsoni* occurs in more diverse habitats than its upland congener *O. cordelia* found to the

north. Review of ecological notes in Brown (1941) and Pallister (1956) indicates *O. hewitsoni*, though primarily noted from montane humid forest, also occurs in marginal xeric and disturbed areas. Such habitat diversity has been noted for *O. ahola* in areas where it is the common congener (Ross, 1964, 1975–1977).

ETYMOLOGY. Patronym, referring to Hewitson's original designation of the holotype as syntype of another species.

MATERIAL EXAMINED. BOLIVIA. Las Juntas, Bolivia (one male, one female) (CMNH). ECUADOR. *Abitagua, 15 September 1937, leg. Macintyre (one male) (AMNH); *Chanala, Zamora, 6 February 1939, leg. F. M. Brown (one female) (AMNH); Pichincha, flanks of Antisana, 2,950 m, July 1971, leg. R. de Lafabre (AME); *Macas (male) (AMNH); *Macas, Rio Upono, 1,050 m, 25 January 1939 (female) (AMNH); *Abitagua, Rio Pastaza, 1,300 m, 20 October 1936 (female) (AMNH); *Palmara (one female) (AMNH); Azmona [Amazon?] (one male) (BMNH); *Zamora, 3–4,000 ft (one female) (BMNH); "Ecuador" (two males, two females) (BMNH); *Equateur, Ent. d'Ambato (two females) (BMNH); Balzabamba (one male) (BMNH). PERU. *Chanchamayo (one male, two females) (BMNH); *Rio Tabaconas 6,000 ft. Peru (one female) (BMNH); San Ramon 6,000–8,000 ft (two females) (BMNH); Upper Rio Tono, La Merced, July–September 1901 (one female) (BMNH); *Chaquimayo, SE Peru, April 1920 (one female) (BMNH); "Amazons" (one male) (BMNH); *Huaca Huayabamba, SE of Chanchapoyas, 3,500 ft (one male) (BMNH); *Rio Tono, C. Peru, 1,200 ft Watkins (one male) (MNH); *Chanchamayo, 3–4,000 ft (four males) (MNH).

Southern South American subgroup, west and south of Amazon Basin

Orcya catharina (Draudt), **New Combination**

Figs. 3A, B, 6D, 7E

Thecla catharina Draudt 1917–1924 [1920]:788, pl. 156, fig. k; Comstock & Huntington, 1958–1964 [1959]:179; Bridges, 1988:I.73; Johnson, 1989a:13.

Thecla orcynia [not *orcynia* Hewitson, 1868]: Zikán & Zikán, 1968:56 (ambiguous misidentification referring to SE Brazil).

DIAGNOSIS. Restricted to SE Brazil and there contrasting sympatric *O. anthracia* by dull violet, basally restricted, upper surface structural color (*O. anthracia* brilliant azure distally to the submargins) and simple under surface markings comprised of an unemphatic, slightly jagged medial band somewhat "W"-shaped along the anal angle and usually without cell-end streaks (*O. anthracia* with all these pattern elements pronounced). Genitalia distinctive from all congeners (see below), particularly differentiating *O. catharina* from NW Argentine *O. supra* by latter's highly modified genital terminus in females. Ecologically distinctive as noted in Remarks below.

DESCRIPTION. *Male*. Upper surface of wings: ground dull iridescent violet, restricted rather basally with wide areas of subapices and submargins fuscous. Under surface of wings: ground gray-brown; forewing with dull white to cream postmedial line, costa to cell CuA2; hindwing with dull white to cream medial line from costa to cell CuA1, thereafter incised in a compact "W"-shape before anal angle; cell-end streak obsolescent, if present at all. Limbal area dully marked, Thecla-spot dull

orange. Length of forewing: 14.5–15.5 mm. *Female*. Upper surface of wings: ground dull violet to violet-hued brown, subapices and margins fuscous. Under surface of wings: similar to males. Length of forewing: 14.5–16.0 mm. *Male Genitalia*. Figure 6D. Typical of genus but with vincular spurs widely lobate, saccus relatively wide, and valvae characterized by bilobed area rather constricted caudad the saccus and with short, thin, caudal extensions. Brush organs in thick bundles abutting the dorso-cephalic surface of the vinculum. Aedeagus very long, length exceeding rest of genitalia by about one-third, caecum small, comprising only about one-fifth aedeagal length. *Female Genitalia*. Figure 7E. Distinctive among congeners: caudal and cephalic ductus element somewhat symmetrical, cephalic element dorsally inclined at the cervix bursae; both ductal elements with distally expansive termini (large concave knob at cervix bursae, with sclerotization extending as a hood over distal end of bursal sac; widely expansive lamellae at the caudal terminus). Signa broad and flat with short distal spines. Length of apophyses papillae anales equalling that of caudal ductus section.

TYPES. MNHN contains two reputed syntype males labelled by Lathy [G. Bernardi, pers. comm.] as follows: one male with handwritten red label "type," typeset voucher label "TYPE" and handwritten locality data "Timbo, Blumenau, St. Catharina [sic], Modt. 11/8/27, (H.?) Kobsch[. . . unreadable] Dresden, ex. C. S. Larsen coll."; one male with identical labels except no specific mention of Timbo, Blumenau". As noted by Johnson (in press) G. Bernardi (pers. comm.) indicates that on Larsen Collection labels, data following "Modt." (located on a second label line following collection data, if provided) includes data concerning purchase. Thus, the 11/8/27 label date does not invalidate these specimens as types and the Dresden locality of purchase is interesting (OD was from Wernicke Collection specimens). I have compared the specimens (see Johnson, in press, fig. 16, forewing 15.0 mm) with the OD (TL "Sa. Catharina") and nothing from this comparison appears to objectively invalidate the specimens as types. To be prudent, however, I do not designate a lectotype.

DISTRIBUTION. Known from numerous lowland and submontane localities in SE Brazil and adjacent Paraguay (altitudes noted up to 600 m).

REMARKS. *Intragenetic Relations.* This species appears to exhibit ecological segregation from its regionally sympatric congener *O. anthracia* like Central American *O. orcynia* does from *O. cordelia*. Early workers like Draudt (1919), probably working from regionalized data, viewed the extremes of wing pattern in SE Brazilian specimens and suggested *anthracia* and *orcynia* were clinal and synonymous. Catalogers Comstock and Huntington (1958–1964 [1959]) and Bridges (1988) noted the original descriptions and treated *catharina* as a species; local collectors Zikán and Zikán (1968) followed Draudt but had not seen the types. The differences between *O. anthracia* and *O. catharina* are apparent when one examines morphology and long series with detailed collection data. Similar to *O. orcynia*, *O. catharina* is a common insect in xeric and disturbed lowland and submontane areas. In contrast, specimens of *O. anthracia* are either very old (perhaps indicating restriction of current habitat) or, if with current data, indicative of upland humid forest biomes now widely threatened in SE Brazil. This apparent habitat segregation accounts for the hiatus in characters between the two taxa but needs to be verified by field work if still possible.

Variation. As noted in *O. orcynia*, some specimens are more blue on the upper

surface with more pronounced under surface markings. These require more careful separation from *O. anthracia* by the genitalia. Unlike samples of *O. orcynia*, there does not appear to be any seasonal correlation with this slight variation.

Biology. As noted above, data indicate *O. catharina* is best characterized as a coastal lowland and submontane (up to circa 600 m) xerophile, widely adapted to disturbed and agriculturally-utilized land.

MATERIAL EXAMINED. BRAZIL. Castro, Paraná State, 2,400 ft, 28 March 1900 (one female) (AME); Petropolis, 1939–1941 (one female) (CMNH); Novo Teutonia 1944 (one female) (CMNH); *Annaburg, Santa Catarina, (two males) (AMNH); *Salesopolis (Boracea) Sao Paulo, Travassos Filho & Pearson 30 xi 1948 (one male) (AMNH); *"Guapy", Rio de Janeiro, 20 July 1937, leg. Gagarin (two males, one female) (MPM); *Independencia, Petropolis, 24 July 1936, leg. Gagarin (one male) (MPM); *"Rio Leata", Rio de Janeiro, 26 October 1930, leg. Gagarin (one female), 30 May 1950, leg. Gagarin (one male) (MPM); *Espírito Santo (four males, four females) (BMNH); Minas Geraes (sic) (two males) (BMNH); *"Brazil" (seven males, four females) (BMNH); "Rio" (four females) (BMNH); *Castro, Paraná (four males, five females) (BMNH); Castro, 7 May 1910 (one male) (BMNH); Iguassu, Paraná (two females) (BMNH); Novo Friburgo (three females) (BMNH); Petropolis (one female) (BMNH); Tucunduva, Paraná, 650 m, 17 February 1913 (one male, one female) (BMNH); Tibagy, Paraná (one female) (BMNH); *Timbo, Blumenau, Santa Catarina (one male, one female) (MNH). PARAGUAY. *S Paraguay, leg. Perens (two males) (BMNH); "Paraguay" (one female) (BMNH).

Orcya anthracia (Hewitson), **New Combination, revised status**

Figs. 3C, D, 6F, 7C

Thecla anthracia Hewitson 1863–1878 [1874] (1):166, (2):pl. 76, fig. 604–606; Kirby, 1877:777; Druce, 1907:63. Comstock & Huntington, 1958–1964 [1959]:73, [1962]:42; Johnson, 1989a:13.

Thecla orcynia [not *orcynia* Hewitson 1868]: Draudt, 1919:788; Comstock & Huntington, 1958–1964 [1959]:73; Bridges, 1988:I.25 (synonymy in error); Zikán & Zikán, 1968:56 (ambiguous misidentification referring to SE Brazil).

DIAGNOSIS. Upper surface of both sexes more brilliantly iridescent blue than any congener and with basal area of anal lobe distinctly bright orange. Hindwing under surface with medial band and cell-end streaks pronounced, band radically W-shaped near the anal margin, lacking postbasal markings, and with base of anal lobe vividly orange. Male genitalia with basal shape of valves distinctly "spindle"-shaped (cephalic terminus of valves constricted, contrasting greatly produced distal lobes and an extremely thin caudal extension); female genitalia with cephalic ductal element recurvate.

DESCRIPTION. *Male.* Upper surface of wings: ground brilliant azure blue bordered in subapices and submargins with black. Anal lobe bright orange. Under surface of wings: ground gray-brown; forewing with white postmedial line, costa to cell CuA₂; hindwing with white medial line, bordered basally with brown or black, from costa to cell CuA₁, thereafter incised in pronounced "W"-shape before anal angle; single pronounced cell-end streak in discal cell. Limbal are generally unmarked but Theclaspot vividly orange. Length of forewing: 15.0–16.5 mm. *Female.* Upper surface of

wings: ground iridescent blue to aquamarine bordered in apices and margins with fuscous; anal lobe orange. Under surface of wings: similar to males. Length of forewing: 15.5–17.0 mm. *Male Genitalia*. Figure 6F. Typical of the genus but with valvae in distinct "spindle"-shape (cephalic area of bilobes extremely constricted, distal lobes produced and caudal extension short and thin), cephalic constriction distending vinculum caudad the saccus. Saccus funnel shaped, about same length as valvae. Vincular spurs and falces robust for genus. Brush organs in thick bundles abutting the dorso-cephalic surface of the vinculum. Aedeagus very long, length exceeding rest of genitalia by about one-third, caecum small comprising only about one-fifth aedeagal length. *Female Genitalia*. Figure 7C. Typical of genus but with cephalic section of ductus bursae shorter by one-fourth to one-third than caudal section, and recurvate. Signa short, wide-based, with a rather thick medial spine. Apophyses papillae anales short, length only about one-half that of caudal bursal section.

TYPES. Among six syntypes, BMNH, two species were represented. Of five syntypes which are conspecific (two males and two females labelled "Brazil" and one female labelled "Rio") I designate the latter female as lectotype. It is labelled "Rio, Hewitson Coll. 79-69., *Thecla anthracia* 4" "Rio," "designated lectotype by K. Johnson, 1989." This designation follows BMNH procedural advice of P. Ackery, Curator, requiring I also fix as paralectotypes the remaining four specimens. These specimens, in addition to being labelled "designated paralectotype by K. Johnson, 1989" are labelled "Brazil, Hewitson Coll. 79-69., *Thecla anthracia* "1," "2," "3" and "5," respectively, these numbers corresponding to the original syntype numbers assigned by BMNH staff to the Hewitson Collection types. The remaining syntype ("6," labelled "Ecuador") is holotype of the *O. hewitsoni* described above.

DISTRIBUTION. Apparently limited to tropical montane coastal forest in SE Brazil (altitudes noted from 900–2,000 m).

REMARKS. *Intragenetic Relations.* As noted under treatment of *O. hewitsoni*, the original syntype series of *Thecla anthracia* included specimens of both taxa with respective Ecuadorian and Brazilian locality data. On the advice of Phillip Ackery (BMNH), I have designated a Brazilian lectotype for *T. anthracia* because (1) it is in this region that the species must be distinguished from sympatric congener *O. catharina* and (2) such designation is consistent with the literature usages for *T. anthracia* (Ecuadorian syntypes were not mentioned in literature following the original description). A new Ecuadorian species has been described above and I designated the Ecuadorian syntype of *T. anthracia* as its holotype; this is appropriate since the new taxon must be distinguished primarily from *O. cordelia* which enters Ecuador in the northwest.

Variation. Specimens of *O. anthracia* are very uniform in wing pattern and genitalic traits.

Biology. Remarks under *O. catharina* (above) pertain.

MATERIAL EXAMINED. BRAZIL. Brusque, Santa Catarina State, 15 December 1967, leg. V. Becker (one male) (AME); *"Parque Viacatie," Petropolis, 1 August 1931 (one male) leg. Gagarin (MPM); *"Guapy," Rio de Janeiro, 14 May 1937, leg. Gagarin (male) (MPM); *Petropolis, 8 May 1938 leg. Gagarin (male) (MPM), 20 November 1938, 900 m, leg. Gagarin (one female) (MPM), 7 January 1935 leg. Gagarin (one male) (MPM); *Independencia, Petropolis, 1936 (male) leg. Gagarin (MPM), 20 September 1936 (male) leg. Gagarin (MPM) 25 August 1938 (one male)

leg. Gagarin (MPM), 20 September 1956 (male) leg. Gagarin (MPM), 21 September 1936 (male) leg. Gagarin (MPM); 2 October 1936 (male), leg. Gagarin (MPM), 19 August 1956 (male) leg. Gagarin (MPM); "Adhemar Costa," Rio de Janeiro (male) leg. Gagarin (MPM); "Icata," Rio de Janeiro, 20 July 1950, leg. Gagarin (male) (MPM); Gavea, Paraná, 20 June 1939, leg. Gagarin (MPM); *"Castonua," Rio de Janeiro, 28 June 1939 (female) leg. Gagarin (MPM); Corupa, Santa Catarina, November 1956, ex. Niedhofer Coll. (MPM); *Massaranduba-Blumenau, Santa Catarina (three males, five females) (AMNH); *Annaburg, Santa Catarina (one male, one female) (AMNH); *Londrina, N. Paraná, 9 x 1935 (one female) (AMNH); Espirito Santo (one male, four females) (BMNH); Minas Geraes [sic] (two males) (BMNH); *"Brazil" (seven males, four females) (BMNH); *"Rio" (four females); Santa Teresa, Espirito Santo State, 900 m, 7–8 April 1973, leg. C. Callaghan (one female) (AME); Petropolis, Rio de Janeiro State, 900 m, 2 April 1971, leg. C. Callaghan (four males) (AME); *Umuarama, São Paulo, 1,800 m, 3–15 February 1937, leg. Gagarin (one male, one female) (MPM).

Orcya larseni (Lathy), **New Combination**

Figs. 5E, F, 8E, 9E

Thecla larseni Lathy 1936:230, pl. 8, fig. 7; Comstock & Huntington, 1958–1964 [1961]:106.

DIAGNOSIS. A tailless species, also easily distinguished by dull, restricted, upper surface iridescence and cryptic tawny under surface. Upper surface with dull purplish blue patches (suffused distally with silver) occurring basally and medially on male forewing and from cell M2 to anal margin on hindwing of both sexes. Under surfaces with tawny suffusion often obscuring medial and cell-end markings typifying the genus. Male genitalia distinctively elongate and distended in ventral shape; female genitalia markedly robust (see below).

DESCRIPTION. *Male.* Upper surface of wings: ground generally tawny brown with iridescent purplish blue (distally tinged silverish) basal to medial on forewing and cell M2 to anal margin on hindwing. Wing shape rather angled for genus; hindwing without tails. Under surface of wings: ground tawny-brown; forewing with vague cream postmedial line, costa to cell CuA2; hindwing with brown overscaling obscuring jagged cream medial line [from costa to cell CuA1, thereafter incised in a compact "W"-shape before anal angle, complemented in discal cell by single cream cell-end streak. Limbal area generally unmarked; Thecla-spot and base of anal lobe prominently orange. Length of forewing: 12.5–14.0 mm. *Female.* Upper surface of wings: marked similar to male but iridescence limited to cell M2 to anal margin of hindwing. Under surface of wings: similar to males. Length of forewing: 12.5–14.5 mm. *Male Genitalia.* Figure 8E. Dorsal area of vinculum very compact; area adjoining saccus consequently greatly distended with saccus extremely elongate. Falces robust and located more dorso-terminally than in congeners. Valvae with bilobed area parabolic, caudal extension thinly tapered. Brush organs in bundles abutting the thin dorso-cephalic surface of the vinculum. Aedeagus with shaft rather straight but caecum displaced somewhat ventrally and comprising only about one-fifth aedeagal length. *Female Genitalia.* Figure 9E. Typical of genus in overall structural but extremely robust and with cervix bursal shield outstanding. Terminus with lateral

flaplike sclerotizations as in *O. marmoris* and *O. supra*, but not as robust as in these species. Signa robust and broad-based tapering to conspicuous distal spine. Apophyses papillae anales robust and terminally lobate, cephalic length slightly exceeding constricted section of ductus bursae.

TYPES. Holotype male (Fig. 5E, 13.0 mm), MNHN labelled "specimen typicum *Thecla larseni* Lathy," "Mendoza 28/12 1906, Argentina," "Coll. C. S. Larsen, Faaborg."

DISTRIBUTION. *Spatial* (Fig. 10): montane northwestern to central Argentina. *Temporal*: specimen dates range from December to February.

REMARKS. *Intragenetic Relations.* This small, cryptic, species would not be readily associated with *Orcya* by wing pattern. Genitalia confirm the generic assignment and close examination of specimens without heavy under surface suffusion reveals the hindwing pattern typifying *Orcya* taxa. The taxon has been poorly known and is only well-represented in the C. S. Larsen Collection (MNHN), early collections by J. Steinbach (BMNH) and K. Hayward (IML) and recent Argentine samples of R. C. Eisele and B. MacPherson (see Johnson, Eisele and MacPherson, 1988 & in press). *O. larseni* is apparently an allopatric sister species of the *O. catharina/O. anthracia* complex, as is the new Argentine species described immediately below.

Biology. The habitat of *O. larseni* appears diverse. Of the localities listed below, "Cucho" is mesic to hydric upland forest (Johnson, Eisele and MacPherson, 1988), "Cafayate" is xerophytic Monte (Johnson, Eisele and MacPherson, 1988 & in press) and "Rio Lazano" is grassland with immediately adjacent quebrada forest (Johnson, Eisele and MacPherson, in press). Species composition of MNHN "Mendoza" thecline samples (see e.g., *Chlorostymon patagonia* Johnson, 1989c) suggests MNHN samples of *O. larseni* are xerophilic.

MATERIAL EXAMINED. ARGENTINA. Jujuy Province, Rio Lazano, Morro de Alizar, 1,800 m, 1 February 1970, leg. R. Eisele (one male) (REC), Cucho, 22 February 1979, leg. B. MacPherson (one female), same data but 29 December 1980 (one female) (AMNH); Mendoza Province, "Mendoza," 13 December 1906 (two males, one female), 28 January 1906 (two females), 3 December 1908 (two males, one female), [collector unknown] C. S. Larsen Collection (MNHN); Salta Province, Salta, Cerro San Bernardo, 1,450 m, 1 December 1964, leg. R. Eisele (REC), Cafayate, February 1952, leg. K. Hayward (one male) (IML); Tucumán Province, Villa Nougues, January 1929, leg. K. Hayward (one male, one female), same data but January 1928 (one male) (IML), "Tucumán," 5 February 1922 (two females), "Tucumán," leg. J. Steinbach (one male, one female), same data but 1,100 m, January–February 1905 (one male) (BMNH).

***Orcya supra*, new species**

Figs. 3E, F, 8A, 9A

DIAGNOSIS. Under surface wing pattern most similar to *O. catharina* but upper surface more brilliant blue and distally expansive as in *O. anthracia*. Forewings with inner margin uniquely disto-caudally produced. Female genitalia extraordinary—among several structural innovations (see below), most salient are lateral, flaplike,

sclerotizations extending widely from the base of the lamella antevaginalis to the margins of the eighth tergite.

DESCRIPTION. *Male.* Upper surface of wings: ground bright iridescent azure blue with crisp fuscous borders in subapices and margins. Forewing inner margin disto-caudally produced. Under surface of wings: ground gray-brown; forewing with cream postmedial line, costa to cell CuA₂; hindwing with jagged cream medial line from costa to cell CuA₁, thereafter incised in a compact "W"-shape before anal angle, complemented in discal cell by single cream cell-end streak. Limbal area generally unmarked; Thecla-spot dull orange. Length of forewing: 12.0 mm (allotype). *Female.* Upper surface of wings: ground dull iridescent aquamarine bordered by uneven fuscous along the apices and margin. Forewing inner margin disto-caudally produced. Under surface of wings: similar to males. Length of forewing: 15.0 mm (holotype); 15.0 mm (paratypes). *Male Genitalia.* Figure 8A. Somewhat resembling *O. catharina* but with vincular spurs and saccus thinner and valvae less robust and more angled along the margins of the bilobed configuration (see Remarks). Brush organs in bundles abutting the thin dorso-cephalic surface of the vinculum. Aedeagus rather straight for genus with caecum not outstanding; aedeagus length exceeding rest of genitalia by about one-fourth, caecum comprising about one-fourth aedeagal length. *Female Genitalia.* Figure 9A. Typical of genus in overall structural but exhibiting the following supralimital characters: terminal lamellae, in addition to dorsal keel, fused laterally into circular configuration and with additional ventral lobe from which extend laterally wide, flaplike, sclerotizations. Neck between cephalic and caudal sections of ductus swollen, and sclerotized along the edges. Juncture of cephalic ductal section and corpus bursae widely invaginated and dorsally inclined. Signa with rather round, produced, base, tapering to conspicuous distal spine. Apophyses papillae anales robust, cephalic length exceeding constricted section of ductus bursae (see Remarks).

TYPES. Holotype female (Fig. 3F), Mosconi, Salta Province, Argentina, 9 June 1975, leg. B. MacPherson; allotype male (Fig. 3E), 2 km N San Pedro, Jujuy Province, Argentina, 26 April 1979, leg. R. Eisele. Both deposited AMNH. Paratypes. AMNH: Agua Blanca, Quebrada (Arroyo) Remanso, Salta Province, 450 m, 25 January 1972, leg. R. Eisele (one female) (AMNH); same data but 9 August 1989 (one female) (REC).

DISTRIBUTION. Known only from chaco habitats and their margins in north-western Argentina.

REMARKS. *Intragenetic Relations.* Typical of numerous NW Argentine lowland xerophilic endemics (see Johnson, Eisele and MacPherson 1988, in press) *O. supra* appears most closely related to a xerophilic SE Brazilian congener, *O. catharina*. Insular distribution probably accounts for the supralimital characters of the female genitalic terminus; similar additional sclerotized components are currently known only from *O. marmoris* and *O. larseni*. Also typifying regional zoogeography, *O. supra* does not appear closely related to montane *O. obliqua* of montane La Rioja Province. This species is an apparent southern segregation of the Andean *Orcya* fauna (see Remarks under *O. hewitsoni* and *O. obliqua*).

Biology. The type locality is a chaco and chaco-xeric woodland margin locality. Endemism here is attested by Mosconi's being the type locality for five species and

two genera of recently described butterflies (Johnson, 1988; Johnson, Eisele & MacPherson, 1988 & in press). However, thirty years of concerted collecting in the area by Eisele and MacPherson has yielded only the types of *O. supra* and the species is not represented in the extensive holdings of the IML.

ETYMOLOGY. The name is Latin (meaning "above" or "beyond") and refers to the supralimal genitalic characters.

***Orcya obliqua*, new species**

Figs. 4E, 6E

DIAGNOSIS. Under surface medial hindwing band bright white over dark brown ground, slanted obliquely (costo-basally) with two pronounced cell-end streaks immediately adjacent in the discal cell. Like *O. aunia*, known specimen small (FW 12.5 mm). Genitalia with "pear"-shaped vinculum and extremely elongate bilobed area of the valvae greatly distending the saccus.

DESCRIPTION. *Male*. Upper surface of wings: dull iridescent dark blue-green with crisp fuscous subapices and margins. Under surface of wings: ground chocolate brown; forewing with bright white postmedial line, costa to cell CuA2. Hindwing with bright white medial line directed baso-costad at top of wing, in anal area from cell CuA1 incised in a compact "W"-shape before anal angle. Discal cell with two vivid cell-end streaks disjunct from medial band. Limbal area generally unmarked; Thecla-spot small and orange. Length of forewing: 12.5 mm (holotype). *Male Genitalia*. Figure 6E. Compared to congeners similar only to *O. hewitsoni* in rather "pear"-shaped vinculum. Valvae extremely elongate both in the bilobed region (which distends the elongate saccus) and in the caudal extensions. Brush organs comparatively short for genus because of vincular shape. Aedeagus with caecum displaced laterally from plane of shaft and with shaft terminus markedly recurved; aedeagal length exceeding rest of genitalia by about one-fourth, caecum comprising only about one-fifth aedeagal length.

TYPES. Holotype male (Fig. 4E), La Rioja, Argentina, leg. Giacomelli, deposited BMNH (see Remarks).

DISTRIBUTION. Known only from the type locality.

REMARKS. As noted by Johnson, Eisele and MacPherson (1988 & in press), La Rioja material of Giacomelli contains numerous undescribed endemics, usually representing upland montane or lowland chaco environs. Unique small samples of Giacomelli material survive because he sent such specimens to the BMNH hoping for identifications. Most of the specimens with dates affixed are from the period 1910–1914. Consistent with the character resemblance of *O. obliqua* and *O. hewitsoni*, contrasting the apparent sister species relationship of *O. catharina* and *O. supra*, I speculate that *O. obliqua* represents montane habitat.

ETYMOLOGY. The name is taken from the Latin for "oblique" referring to the distinctive position of the under surface medial hindwing band.

The ahola Group

Taxa of this group have somewhat duller upper surfaces and brown under surfaces; generally with postbasal patterns complementing the medial band and cell-end streak;

in male genitalia the vinculum is distended near the saccus to accommodate innovations in the basal structures of the valvae; like the *bassania* Group, the cervix bursae generally has two small sclerotized struts.

Orcya ahola (Hewitson), **New Combination**

Figs. 4A, B, 8B, 9B

Thecla ahola Hewitson 1863–1878 [1867] (1):82, (2):pl. 35, figs. 73, 74; Kirby, 1871: 383; Druce, 1907:603; Godman & Salvin, 1879–1901 (2):64; Huntington, 1933: 2; Hoffman, 1940:714; Comstock & Huntington, 1958–1964 [1959]:64; Ross, 1964: 23, 1975–1977 [1976]:197, [1977]:168; Johnson, 1989a:13.

Thecla cordelia [not *cordelia* Hewitson 1869–1877 [1870]]: Draudt, 1919:788; Comstock & Huntington, 1958–1964 [1959]:65; Bridges, 1988:I.89 (synonymy in error).

DIAGNOSIS. Upper surface with structural color on both sexes limited to basal to postmedial areas only (male more iridescent than females); under surface with dull brown ground and distinctive postbasal lines (cell Sc+R1 through discal cell and base of cell CuA2) complementing jagged, thin, medial line and one to two adjacent cell-end streaks. Male genitalia with vinculum near saccus greatly distended (saccus length almost twice exceeding width of vincular arc) and valvae comparatively small.

DESCRIPTION. *Male.* Upper surface of wings: ground brilliant iridescent blue with crisp fuscous borders in the subapices and submargins. Under surface of wings: ground brown; forewing with thin, whitish postmedial line, costa to cell CuA2; hindwing with thin, dashed, jagged, medial white line from costa to cell CuA1, thereafter incised in a compact “W”-shape before anal angle. Discal area with one or two crisp white cell-end streaks; postbasal area with thin, white, line (cell Sc+R1 through discal cell and base of cell CuA2). Limbal area generally unmarked; Theclaspot pronounced, colored dull orange. Length of forewing: 15.0–16.5 mm. *Female.* Upper surface of wings: ground bright iridescent aquamarine bordered crisply in subapices and margins with fuscous. Under surface of wings: similar to male. Length of forewing: 15.0–17.0 mm. *Male Genitalia.* Figure 8B. Typical of genus but with vinculum greatly distended toward saccus and length of latter greatly exceeding that of vincular arc. Falces very thin for genus; valvae thinly parabolic in the bilobed area, then tapered abruptly to short caudal extensions. Brush organs in elongate bundles abutting the distended dorso-cephalic surface of the vinculum. Aedeagus elongate, length exceeding the rest of genitalia by about one-fourth, caecum comprising slightly more than one-fourth aedeagal length. *Female Genitalia.* Fig. 9B. Caudal and cephalic elements robust, latter exceeding length of former by about one-fourth. Lamellae distally expansive compared to group member *O. aunia* (see below). Juncture of ductus and cervix bursae with small struts; signa with elongate base and distal spine. Apophyses papillae anales elongate, exceeding length of caudal element of ductus bursae.

TYPES. Syntype male, BMNH, labelled “Bogota, Colombia, Hew. Coll. 79-69, *Thecla ahola*, Hew. (1),” “B. M. Type No. Rh. 841,” hereby designated lectotype, and “Mexico, Hew. Coll. 79-69, *Thecla ahola* Hew. (2),” “B. M. Type No. Rh. 842” hereby designated paralectotype (BMNH practice).

DISTRIBUTION. Known from central Mexico S to the Guyana Shield and montane Ecuador.

REMARKS. *Intragenetic Relations.* This common species has always been considered distinctive and here has only required further distinction from some taxa variously considered synonyms by early authors. Typical of character homogeneity in *O. ahola*, the syntypes (though from disparate localities) are indistinguishable by wing and genitalic features. I make the Colombia syntype lectotype since its locality is central in the species' range.

Variation. Despite widespread distribution, wing character variation in *O. ahola* is slight, dark brown under surface ground with white postbasal line being diagnostic throughout. There is slight variation in the brilliance and distal expanse of upper surface iridescence in both sexes. Stability of these characters in *O. ahola* makes the species of the following two entries more outstanding.

Biology. Ross (1964, 1975–1977 [1976]) reports *O. ahola* from disparate habitats. This is consistent with the distributions of museum specimens indicating widespread sympatry of *O. ahola* and other congeners, particularly lowland xerophiles but also upland *O. cordelia*. This cosmopolitanism in *O. ahola* probably accounts for its overall character homogeneity.

MATERIAL EXAMINED. BRAZIL. *Mt. Roraima, 5,800 ft, 28 February 1927 (female) (AMNH). COLOMBIA. *Cali, Western Cordillera, 19 February 1935 (male) (AMNH); *Rio Quirata, 27 December 1945 (female) (AMNH); San Miguel (male) (AMNH); Valle del Cauca, Colima, 1,500 m, 12 April 1974, leg. S. & L. Steinhauser (one male) (AME); *Bogota, 1,700–2,800 m, dry season (one male) (BMNH); *Interior of Colombia, garden (three females) (BMNH); "Colombia" (four females) (BMNH). ECUADOR. *Balzabamba (one male) (BMNH); "Ecuador" (five males) (BMNH); GUATEMALA. Chimaltenango, Panajabal, 1,250 m. Mpia. San Pedro Yepocapc, 2 January 1966, leg. E. Welling (one female) (CMNH); *Polochic Valley (one male) (BMNH). HONDURAS. *La Cambre, 11–12 February 1922 (three males) (BMNH). MEXICO. Santa Rosa, Comitán, September 1961 (one male), July 1967 (one female), both leg. T. Escalante (both AME); Presidio, Vera Cruz State, March 1944, May 1945, September 1949, September 1939, May 1945, leg. T. Escalante (five males) (AME); Santa Rosa, Comitán, Chiapas State, September 1961, leg. T. Escalante (one male) (AME); Fortín, Vera Cruz State (seven females) (CMNH); "Mexico" (one male) (BMNH); Rio "Quatal," January 1909, 1,800 m (one male) (BMNH); *Orizaba, Vera Cruz, March 1908 (one male, one female) (AMNH); *Presidio, Vera Cruz (male) (AMNH); Huigra, 16 July 1914 (male) (AMNH); *Piedrancha Marino, 3 May 1966 (one male, one female) (AMNH). PANAMA. *La Boca, Canal Zone, 22 December 1907 (one female) (AMNH). VENEZUELA. Píedel, Cerro La Victoria, Aragua, CM Expedition, 6 May 1929 (one male) (CMNH); *"Venezuela," leg. Druce (two males) (BMNH).

Orcya aunia (Hewitson), **New Combination, revised status**

Figs. 4C, D, 8C, 9C

Thecla aunia Hewitson 1863–1878 [1874] (1):167, (2):pl. 65, figs. 464, 465; Druce, 1907:603 [misspelled as "*anina*"]; Godman & Salvin, 1879–1901 (2):64; Comstock & Huntington, 1958–1964 [1959]:71, 85; Johnson, 1989:13.

Thecla orcyinia [not *orcyinia* Hewitson]: Godman & Salvin, 1879–1901 (2):64; Draudt,

1919:788; Comstock & Huntington, 1958–1964 [1959]:71, 85; Bridges, 1988:I.40, I.258 (synonymy in error).

DIAGNOSIS. Notably small for genus (FW 13.5–14.5 mm). Wing upper surfaces comparatively dull, males resembling females (see Types and Remarks). Under surface similar to *O. orcynia* but duller and with obsolescent post-basal slashes complementing the single cell-end streak. Differing from *O. ahola* on the upper surface as above and on the under surface with more pronounced and meandering pattern to the postbasal and medial markings. In the genitalia, male valvae thin with bilobes and caudal extension steeply tapered; saccus shorter than congeners, not equalling width of vincular arc or length of valvae; female genitalia robust with diminutive lamellae and caudal ductal element.

DESCRIPTION. *Male.* Upper surface of wings: ground dull iridescent dark blue-green with crisp fuscous borders in the subapices and margins. Under surface of wings: ground brown; forewing thin, dull postmedial line, costa to cell CuA2. Hindwing with thin, meandering, white medial line from costa to cell CuA1, incised in slight “W”-shape before anal angle. Discal cell with thin white cell-end streak; postbasal area with thin, obsolescent line (cell Sc+R1 through discal cell and base of cell CuA2). Limbal area generally unmarked; Thecla-spot reduced, colored dull orange. Length of forewing: 13.5–14.5 mm. *Female.* Upper surface of wings: ground dull, dark iridescent silver-tinged blue with unevenly bordered fuscous apices and margins. Under surface of wings: similar to males. Length of forewing: 14.0–14.5 mm. *Male Genitalia.* Figure 8C. Valvae with bilobed area and caudal extension both elongate and slender compared to congeners; saccus notably short for genus and brush organs robust, abutting thickened dorso-cephalic surface of vinculum. Aedeagus relatively short for genus, but exceeding shorter overall genital configuration by about one-third, caecum comprising slightly more than one-fourth aedeagal length. *Female Genitalia.* Figure 9C. Ductus bursae robust for genus, with terminal lamellae and cephalic element of ductus bursae both diminutive (length of cephalic ductal element about one-half that of caudal element). Cervix bursae with wide sclerotized struts nearly conjoined by sclerotin as in *O. marmoris*. Signa relatively small for genus, flat-based with short, inwardly directed, spine. Length of apophyses papillae anales about equal to that of caudal ductus element.

TYPES. BMNH holotype, labelled female, but is actually a male, labelled “*T. aunia* type Hew.” Venezuela, Druce Coll., “Druce Coll. ex Kaden Coll.” “female, B.M. Type 839,” “Godman-Salvin Coll. 1911–93. B.C.A. Lep. Rhop. *Thecla orcynia* Hew.” (see Remarks).

DISTRIBUTION. Appears to be an insular Guyana Shield species, presently known from scattered localities in Venezuela and the “Guianas.”

REMARKS. *Intrageneric Relations.* Distinctiveness of the type specimen is attested by its traditional diagnosis as a female (Hewitson, 1863–1878 [1874]; Godman and Salvin, 1879–1901). Accordingly, Godman & Salvin (1879–1901) distinguished the “male” of *T. aunia* as a synonym of *T. orcynia* with Draudt (1919) and subsequent authors following this interpretation. The type specimen had never been dissected. Specimen search in this study has located small samples from scattered locales on the Guyana Shield which share the characters of the type and distinguish the apparent companion females. Genitalia suggest membership in the *ahola* Group, consistent with the slight postbasal band appearing on most specimens.

MATERIAL EXAMINED. VENEZUELA. *Cucuta (one male) (BMNH); *Cucuta (two males) (MNHN); *Merida (one male, one female) (BMNH).

The bassania Group

Taxa share lunular pattern elements in the forewing and hindwing medial bands complemented by additional lunular postbasal, discal and submarginal markings; male genitalia exhibit distinctive lateral keels on the ventral valval surfaces; female genitalia are generally elongate relative to congeners and usually have two small sclerotized struts at the cervix bursae.

Orcya bassania (Hewitson), **New Combination**

Figs. 5A, B, 8D, 9D

Thecla bassania Hewitson 1868:14; 1869:(1) 117; (2) pl. 47, figs. 217, 218; Kirby, 1871:388; Godman & Salvin, 1879–1901 (2):66, 719; Hoffman, 1940:714; Comstock & Huntington, 1958–1964 [1959]:92; Bridges, 1988:I. 48; Johnson, 1989a:13.

DIAGNOSIS. Pattern elements of under surface bands distinctly lunular, complemented on the forewing by additional discal lunules and, on the hindwing, postbasal and discal lunules. Though outstanding among *Orcya* taxa, these lunular markings must be distinguished from those of *O. marmoris* (see below). On the latter, the lunular markings are webbed between the discal and medial areas, particularly on the forewing. Male genitalia exhibit distinctive lateral keels at the juncture of each bilobed area and caudal extension.

DESCRIPTION. *Male*. Upper surface of wings: ground bright iridescent blue bordered with crisp fuscous subapices and margins. Under surface of wings: ground brown patterned with prolific gray to tawny lunular markings—forewing with post-medial line and marginal lines, costa to cell CuA₂; hindwing with medial, postbasal and discal lines, lunular elements most emphatic toward costa and often suffused distally with tawny or gray. Limbal area usually with white, crennate, intercellular markings framing bright orange *Thecla*-spot. Length of forewing: 15.0–16.5 mm. *Female*. Upper surface of wings: ground bright aquamarine to gray-green with uneven fuscous apices and margins. Under surface of wings: similar to males. Length of forewing: 15.0–17.0 mm. *Male Genitalia*. Figure 8D. Typical of genus but with valval marked by ventrally directed keels at each juncture of the bilobed area and caudal extension followed by thinly tapered termini. Vincular spurs wide and lobate, saccus funnel shaped and about equal in length to the valval. Brush organs in thick bundles abutting dorso-cephalic surface of vinculum. Aedeagus elongate, length exceeding rest of genitalia by about one-third, caecum comprising somewhat less than one-third aedeagal length. *Female Genitalia*. Figure 9D. Cephalic section of ductus bursae robust and elongate, exceeding length of caudal section by one-third to one-fourth (excluding length of attachment to cervix bursae). Terminal lamella with wide, cephalically directed flaps. Juncture of ductus bursae and cervix bursae greatly concave but without additional sclerotizations at distal end of corpus bursae. Signa broad-based with a short, inwardly directed, spine. Apophyses papillae anales about equal to length of caudal ductus section.

TYPES. Holotype male, BMNH labelled, "Mexico," "Hewitson Coll. 79.-69. Thecla bassania (1)," "Type," "Thecla bassania Hew.," "B.M. Type No. R.H. 848."

DISTRIBUTION. Mexico S through Panama.

REMARKS. *Intragenetic Relations*. Along with *O. orcynia* and *O. ahola*, *O. bassania* has long been considered distinctive. It requires superficial distinction only from *O. marmoris*, a seldom-collected sister species occurring in Ecuador and, perhaps, Venezuela (see Remarks under *O. marmoris*).

Variation. The wing pattern is generally stable with only a few insular populations (particularly in Central America) showing exaggeration of the lunular markings in the costo-medial area of the hindwing. Genitalia appear homogeneous throughout the species range.

Biology. Distribution of museum specimens indicates widespread sympatry with other *Orcya* taxa, particularly lowland xerophiles *O. orcynia* and *O. ahola*. *O. bassania* also occurs in uplands where it has been taken with *O. cordelia*.

MATERIAL EXAMINED. COSTA RICA. Volcan, Barba, San Jose, 5 July 1971, H. L. King (one male) (AME); Tree Rios, 5,000 ft, January (one female) (CMNH); *"Costa Rica," leg. Gillott (eight males) (BMNH); *Azahardo Cartago (one female) (BMNH); Irazu (two females) (BMNH). EL SALVADOR. *La Libertad, 26 April 1964, leg. S. & L. Steinhauser (one male); Los Planes, San Salvador, 1,000 m, 20 July 1967, leg. S. & L. Steinhauser (one male) (AME). GUATEMALA. Guatemala City (one male, one female) (CMNH); *Polochic Valley (one male) (BMNH). MEXICO. Presidio, Vera Cruz State, leg. T. Escalante, June 1941, February 1939, July 1942, September 1941 (four males), May 1945, April 1939, May 1938, September 1942, May 1940 (five females) (all AME); Michoacan, Tzararacua Falls, 6 mi S Urupan, Parkland Forest, 1,500-1,580 m, 8 August 1973, leg. L. D. and J. Y. Miller (one male) (AME); Ochuc., Chiapas State, 27-30 June 1971, leg. Wind (one female) (AME); Orizaba, June-July 1904, leg. A. Hill (one female) (AME); Hildalgo, 4 mi NE Chappulhacan, 800 m, moist forest, leg. L. D. and J. Y. Miller (one female) (AME); Yantepec, Morelas State, October 1961, leg. T. Escalante (one female) (AME); Mexcala, Guerrero State, August 1960, leg. T. Escalante (one female) (AME); Avavidaro, June 1960, leg. T. Escalante (one female) (AME); Tenancingo, March 1969, leg. T. Escalante (one female) (AME); 19 mi E Concordia, Sinaloa State, 25 October-1 November 1961 (six males, four females) (CMNH); Ajijic, Jalisco State, 5,400 ft, 7 December 1966 (one male) (CMNH); San Carlos, 60°51'N, 25 May 1969 (one male) (CMNH); Jalapa, May 1900 (one male), Jalapa (three males, two females) (all CMNH); *Jalapa (five males, five females) (AMNH); *Coatepec (one male) (AMNH); *Orizaba, Vera Cruz (one female) (AMNH); "Mexico" (three males) (AMNH); *Jalapa (four males, five females), April 1896 (five males), February 1896 (one male) (all BMNH); Orizaba, March 1888 (two females) (BMNH); *Cordoba (two females) (BMNH); Yucatan (one male) (BMNH); "Mexico" (one female) (BMNH). PANAMA. Chiriqui, Potrerillos, 3,600 ft, leg. H. L. King, 26 December 1965 (one male), 28 December 1964 (one female), 8 February 1978 (one male), 8 January 1978 (one male), 8 January 1973 (three females) (all AME); *El Volcan, Chiriqui, 29 February 1936 (male) (AMNH); Colon, 200 m, 22 October 1949, leg. Pina (one female) (AME); Calif, Chiriqui, 5,000 ft, leg. H. L. King, 15 December 1972 (one male), 21 December 1972 (one male) (both AME); Chiriqui Mountains, Bonere (two males) (AME); *Chiriqui (three males, one female) (BMNH).

Orcya marmoris (Druce), **New Combination**

Figs. 5C, D, 8F, 9F

Thecla marmoris Druce 1907(3):604; Comstock & Huntington, 1958–1964 [1961]: 162; Bridges, 1988:I.215; Johnson, 1989a:13.

DIAGNOSIS. Resembles *O. bassania* because of the marked lunular pattern elements. However, in *O. marmoris* these markings are meshed in a webbed pattern between the discal and medial areas of the forewing and basally to the postbasal area on the hindwing. In the genitalia, males have a rather square vinculum and lack the ventral valval keels prominent on *O. bassania*. Females exhibit additional sclerotized components distad the lamellae terminus, similar only to those in *O. supra* and *O. larseni* of the *orcynia* Group.

DESCRIPTION. *Male.* Upper surface of wings: ground bright iridescent blue with crisp fuscous borders in the subapices and margins. Under surface of wings: ground brown, patterned with prolific lunular and weblike markings. Forewing with thin, wavy, white postmedial line meshed basally to meandering white discal markings. Hindwing with this, meandering medial line meshed basally with diverse discal and postbasal markings in a web-like fashion. Limbal area with prominent white intercellular markings; Thecla-spot dull orange. Length of forewing: 14.5–15.0 mm. *Female.* Upper surface of wings: ground bright iridescent aquamarine to gray-green with uneven fuscous apices and margins. Under surface of wings: similar to males. Length of forewing: 14.5–15.5 mm. *Male Genitalia.* Figure 8F. Typical of genus but with valvae stout and obliquely triangular in shape (wide shoulder at the bilobed area but tapering abruptly cephalad and caudad). Saccus length exceeding length of vincular are but not greatly, resulting in rather robust vincular configuration. Aedeagus length exceeding rest of genitalia by about two-fifths; caecum comprising about one-third aedeagal length. *Female Genitalia.* Figure 9F. Terminus of ductus bursae with additional sclerotized components extending distally to the eighth tergite. Length of caudal ductal element exceeding that of cephalic element by more than one-third and with latter dorsally included before the cervix bursae. Length of apophyses papillae anales exceeding that of caudal element of ductus bursae.

TYPES. Holotype male, BMNH, labelled "T. marmoris, type H. H. Druce," "Columbia, 1898, Purchased from Rosenberg, 99-268," "type," "R.M. No. Rh. 842."

DISTRIBUTION. Known from montane Ecuador and a disjunct Venezuelan population (see Remarks).

REMARKS. This distinctive species is poorly represented in collections and has been generally ignored in the literature. The additional terminal sclerotized components characterizing the female genitalia (Fig. 9F) occur in both the Venezuelan and Ecuadorian disjuncts of this species, causing me to consider these populations conspecific.

MATERIAL EXAMINED. ECUADOR. *Canar, Angas, 1,000 m, December 1974, leg. LaFebre (two males) (AME); *Balzapamba, Bolivar Province, leg. de Methan 1893–1894 (sixteen males) (BMNH); *Chimbo, 1891, leg. de Methan (two males) (BMNH); Nonegalito, 26 August 1956 (one female) (MPM). VENEZUELA. *Merida, 1887 (one male, one female) (BMNH).

DISCUSSION

Orcya is comprised of several familiar, widespread and common Neotropical hair-streak butterflies. It also includes some little-known species from areas of South America seldom visited by collectors. The geographic distribution of *Orcya* (Central America and South America outside the Amazon Basin) is typical of many eumaeine groups and generally congruent with the range of the structurally more apomorphic sister group *Noreena/Contrafacia* (Johnson, 1989a). Particularly distinctive of *Orcya*, however, is the occurrence of four sympatric taxa in the region from Central America southward to northern South America.

Orcya appears comprised of three major lineages: the *orcynia*, *ahola* and *bassania* Groups. Of these, only the *orcynia* Group has sympatric taxa both north and south of the Amazon Basin. From Central America southward to northern South America, members of all three lineages show broadly sympatric and generally congruent geographic distributions. The more structurally apomorphic *ahola* and *bassania* Groups have representatives only north of the Amazon Basin. South of the Amazon Basin the *orcynia* Group shows further diversity, three taxa localized in ecologically stratified regions of the Argentine Andes. This distributional pattern may suggest an ancestral distribution for *Orcya* predating Amazonian disjunction, with disjunction restricting radiation of the *ahola* and *bassania* groups solely to the north.

ACKNOWLEDGMENTS

For specimens examined, and technical assistance, I again thank curators acknowledged in the companion study of *Noreena* and *Contrafacia* (Johnson, 1989a). In addition, comments on field conditions by Stephen L. Steinhauser (AME), F. Martin Brown (Colorado Springs, Colorado) and Robert Eisele and Bruce MacPherson (Tucumán, Argentina) have been helpful. Manuscript comments by John Shuey, an anonymous reviewer and Randall T. Schuh were particularly helpful.

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Received April 4, 1989; accepted October 30, 1989.